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SABER'S
HARDWARE

أل عمران ١٩٦ ، ١٩٧

1. Acute diarrhea *54R*

- Usually due to **gastroenteritis**
 - More common in summer, the commonest cause is **rotavirus**
 - **Diarrhea means** : Passage of frequent unformed stool or watery stool
 - **Causes of diarrhea** :
 1. Viral enteritis (rotavirus)
 2. Bacterial (staph., salmonella, E.coli)
 3. Parasitic (amoeba, giardia)
 4. Parenteral infection (extra-intestinal):
otitis media, UTI, sepsis.
- 



■ Evaluation

1. Ask about **frequency and consistency** of stool?
 - **Mild** (< 6 times/day liquid)
 - **Moderate** (6-12/day liquid or 1-3 times/day watery)
 - **Severe** (> 12/day liquid or 3/day watery)
2. Ask about **mucous or blood** in stool?
 - Mucous only : not considered dysentery
 - Blood + mucous = dysentery (bacillary or amoebic)

- **Bacillary** = fever + high frequency of stool + less tenesmus (desire to defecate but no stool) + abdominal distension
- Commonly caused by shigellosis, E.coli, to less

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- Amoebic = low frequency + severe tenesmus + no fever + no abdominal pain
- Commonly caused by *Entamoeba histolytica* &

3. Ask about **feeding** and if diarrhea is related to change of food, **introducing of new type of food** specifically recurs with one type of food (food allergy)?

4. Ask about **vomiting**?

- Persistent or not?
- Projectile? think of **pyloric stenosis**

5. Try to suspect **lactose intolerance**.

- Usually follows GE
- Common in malnourished babies & young children
- Watery diarrhea, abdominal distension & pain with flatus
- Stool PH is < 6 (acidic)

■ GE:

1. Diarrhea
2. Vomiting: may precede diarrhea by hours or even a day
3. Fever & toxicity (uncommon): exclude extra-intestinal infection.
4. Acute abrupt onset of diarrhea with high fever & no vomiting is characteristic of **shigella infection**.

■ Degree of dehydration:

Mild (<5% body wt loss)	not well	Thirst, dry m.m, irritable
		Thirst, sunken eyes or fontanelles, dry tongue, loss of skin turgor, tachypnea, oliguria, lack of tears
Moderate (5-10% body wt loss)	unwell, apathic	

○ Volume:

- 50 ml/kg over 6 hours
- 30 ml/kg if ongoing losses
- Reassess, i.v if severe vomiting

If (electrolyte-CHO solution) is unavailable, make it yourself

Mixture of:

- Boiled water = 1 liter ماء مغلي
- Salt = half a level teaspoon full نصف ملعقة ملح
- Sugar = 8 level teaspoons سكر ملاعق ٨
- Feeding nil per mouth (NPM) for 6 hrs, then feed, if milk vomited Give ORS
- Cow milk should be stopped for 6-12 hrs
- Once rehydrated until 24 hrs, **restart milk** in small amount than usual + give **Pansol**
- But, by 24 hrs: give full strength, full volume milk feed (150 ml/kg)

4. Moderate dehydration (5-10%): refer ml/kg)

- Type of fluid: ½ DD i.v = Pansol
- Rehydration = 100 ml/kg
- Ongoing losses = 30 ml/kg
- Reassess
- Feeding: NPM for 6 hrs then feed as above

5. Severe dehydration

Severe (>10% body wt loss)	usually shocked	Tachycardia, hypotension, small pulse volume, previous signs.
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► N.B: Do not forget

1. To search for parental infection
2. In persistent vomiting (especially without diarrhea) you should exclude URTI, meningitis and RF
3. That diarrhea is important cause of fever

Management of diarrhea and dehydration

1. No dehydration (no dehydration / no vomiting)

- Type of fluid: ORS (ex: **Rehydram N** or Rehydram zinc)

- Age < 2 years = 100 ml/loose stool
- Age > 2 years = 200 ml/loose stool

R/Rehydram N

كيس على ٢٠٠ سم ماء (مل) كوب مغلي معاملة الجفاف أو ملء زجاجة كوكولا هم صغير) ملعة كل ٥-٣ دقائق حتى يتحسن الطفل

2. Not dehydrated but vomiting

- Type of fluid: ORS

- Volume: trial of oral rehydration as above, if severe vomiting use NGT or IV

- NGT: rehydram is used in the NGT in a dose of 120ml/kg over 6 hours

معدل عدد الضغط في جهاز الغليظ العائى = الوزن × ٥

- Continue breast and bottle feeding

3. Mild dehydration (5%)

- Type of fluid: electrolyte-CHO solution (half Darrow in 5% dextrose water)

- Ex: Pansol by NGT

Compensated shock	Type of fluid	Volume
1. Normal level of consciousness	1. Ringer lactate or normal saline i.v	• Resuscitation = 10 ml/kg iv, fast
2. Bp diastolic > 60 mmHg		• Repeat
3. palpable peripheral pulses.	2. ½ DD	• Rehydration = 100 ml/kg
		• Ongoing losses = 30 ml/kg
		Feeding: feed after 6-12 hrs as above

6. Very severe dehydration (>10%)

Uncompensated shock	Type of fluid	Volume
1. Decreased level of consciousness	1. Ringer lactate or normal saline i.v	• Resuscitation = 20 ml/kg iv, fast
2. BP diastolic < 60 mmHg		• Reassess
3. Peripheral pulses: not palpable	2. Intra-osseous if i.v is not possible	
	3. 1/2 DD	• Rehydration = 100 ml/kg
		• Ongoing losses = 30 ml/kg
		• Reassess every 2 hrs till stable
		Feeding: feed after 6-12 hrs as above

► Maintenance therapy i.v or orally:

Give **Pansol** or Rehydram, breast or bottle milk

- < 10 kg = 100 ml/kg/day
- 10-20 kg = 1000 ml + 50 ml/kg for each kg above 10 kg
- 20-60 kg = 1500 ml + 20 ml/kg for each kg above 20 kg

■ Antimicrobial therapy

1. Amoeba:

R/Flagyl or Amrizole : 50 mg/kg/day for 10 days
2cm/kg 1x3x10

2. Giardia:

R/Flagyl susp. (125mg/5ml) : 30 mg/kg/day for 5 days

3. Shigella & Salmonella:

Ampicillin = 100 mg/kg/day

Amoxicillin = 50 mg/kg/day oral for 5-7 days

4. Cholera: 3 days regimen of tetracycline = 50 ml/kg/day

R/Terramycin syp (125 mg/kg/day) = Oxytetracycline

R/Tetracid cap 250 mg = tetracycline

■ Anti-emetics

R/Primperan, Plasil or Meclopram drops

قطرة/كجم ٢-٤ مرات يوميا قبل الرضعة بنصف ساعة

R/Primperan, Plasil injection ١٠/كجم عند اللزوم

R/Cortigen B6 ped. Ampoules

حقنة عضل عند اللزوم للطفل تحت سنين

حقنة عضل للطفل الأكبر من سنين

R/Motinum syp ١/كجم ٢ مرات قبل الأكل بنصف ساعة

R/Motinum or Motilium supp. 10 mg

لبوس شرجي ٣ مرات/اليوم أو عند اللزوم

■ Non specific anti-diarrheal drugs

R/Kapect syp, Semecta syp. ٤-٣ مرات يوميا

R/Semecta sachets ٣ مرات يوميا

R/Diakan-M susp.

ملعقة صغيرة ٣ مرات يوميا (لحديث الولادة حتى سنين أو ٣ سنوات)

ملعقتين صغيرتين ٣ مرات يوميا (فوق ٣ سنوات)

► The most recommended antidiarrheal drug is

R/Aqua ream Z susp. (15 mg elemental zinc/5ml)

Dose: 10-20mg/day for 10-14 days

■ Give lactose free milk for 2-3 weeks

R/Bebelac FL, isomil

• Formula feeds: Riri, bebelac carrots

• Other foods: Apple & apple juice, guava & guava juice, lemon syp.

2. Babies with colic D&T

• Cause is unknown & exclude volvulus, intussusception and acute infection (e.g. otitis media, OR UTI)

• Colic tends to **start after 2 weeks** of age and usually **decreases by 4 months** of age

• Infant is often **well in the morning** but colic come in the evening & infant become pale & drawing up its legs

• Episodes are often **related to feeding** (mid way through a feed)

■ Treatment:

• Reassurance and support is the main tt

• Use anti-spasmodics:

R/Hicalm drops 15 drops x 3 before feed

Or R/Baby rest syp 1x3

Or R/Spasmotal drops 10 drops x 3

Case:

20 days baby with colic, crying most of night inspite of good suckling

Treatment:

R/Gripe water ١/كجم ٣ مرات يوميا (لحديث الولادة حتى سنين أو ٣ سنوات)

Or R/Nano water.

Or R/Spasmotal drops ١٠/كجم ٣ مرات يوميا

R/Disflatyl or baby rest drops ١٠/كجم ٣ مرات يوميا

Or R/Digestin or Pedicalm syp ١٠/كجم ٣ مرات يوميا

Or R/Dentinex syp ١٠/كجم ٣ مرات يوميا

- مucus الأطفال حديثي الولادة غير معروف السبب وغالبا يكون في المساء ولكنه لا يؤثر على صحة الطفل ويختفي في الشهر الثالث أو الرابع من العمر.
- ينصح الأم بتنظيم الرضعات (حسب رغبة الطفل) حيث أن الأمعات نتيجة بكاء الطفل المتكرر تقوم بإرضاعه بصورة متكررة طمعا في هدوئه فتتفاقم المشكلة.
- تجنب تشويش الطفل أثناء وبعد الرضاعة يساعد على تقليل حدوث المucus وخروج الهواء.
- نوم الطفل على بطنه قد يقلل المucus.
- عدم أكل الأم للأطعمة الحارة مثل التوابل والشطة خاصة وكذلك الشيكولاته.

References

Updated pediatric therapeutics
Oxford handbook of pediatrics (for developing countries)

3. Constipation D&T

A. Constipation in infants

- More common in formula fed than in breast fed babies
- Only considered a problem if hard stool **cause straining & discomfort**
- Passage of a normal soft stool once/week for example is not a problem.
- Cause is not always clear but may be due to **inadequate fluid intake or inadequately diluted formula feeds**

■ Management

1. If there is delay in first passing meconium & subsequent constipation it may be **Hirschsprung's disease**
2. Exclude **anal fissure**
3. Encourage **increase fluid intake** (unsweetened fruit juice can be given to babies in addition to milk)
4. **Abdominal massage** can be helpful
5. **Laxatives** are very rarely required



B. Constipation and soiling in older children

• Hard stool may cause fecal **retention** & chronic constipation & this can lead to **soiling**

• Most children are **clean by 2.5 years of age** & **soiling is abnormal after 4 years** of age

• Acute constipation often **follows febrile illness**

■ Diagnosis

History: Ask about

- The child's diet & fluid intake
- Previous bowel habit

Examination: Check

- The abdomen for a **loaded colon**
- The anus for **anal fissure**
- The rectum for the presence of feces

■ Management

1. The aim of treatment is to **regain the child's confidence** in being able to defecate painlessly
2. An **enema** to dislodge a fecal mass or
3. Give laxative
 - R/Picolax drops
 - Mainly used in chronic constipation
 - **Concentration:** 7.5mg/ml = 0.3mg/drop
 - **Dose:** 0.3mg/kg/day .. oral .. once at night increased or decreased according to response
 - Or R/Sennalax tab 1x1 at night or R/Agiolax sachets
4. Give stool softener (eg lactulose 0.5ml/kg/day)
R/Lactulose or Duphalac syp 1x3
5. The child should be encouraged to go to toilet in un hurried time, after each meal in order to encourage the gastro-colic reflex.

6. Contact laxatives:

R/Glycerin supp. infantile. جلسرين أطفال ليوس عند الزروم.

R/Bisadyl (infantile 5mg/adult 10mg) sup. Or tablet عند الزروم

تصحيح عامة في حالات الإمساك

- الإكثار من السوائل وخاصة عصير البرتقال والمخوخ
- الإكثار من أكل الفواكه والخضروات لكل الأعمار خاصة الطماطم و المانجو والبرتقال.
- تعود الطفل على مواعيد ثابتة للتبرز خلال اليوم و تكون بعد الأكل بنصف ساعة
- جلوس الطفل على القصرية مدة تتراوح بين ١٥-٣٠ دقيقة و معه الداب يديه

References

1. Updated pediatric therapeutics
2. Oxford handbook of pediatrics (for developing countries)
3. Practical pediatric therapy 107-108

4. Chronic diarrhea 54R

- Diarrhea for > 4 weeks is considered chronic
- Usually lead to Iron, vitamin deficiency, malnutrition
- **Chronic diarrhea should be investigated**
 1. Stool analysis: for parasites as giardia, lactose intolerance, fat globules (malnutrition)
 2. CBC: for anemia, eosinophilia (suggest parasites or atopy)
 3. Urine culture: for UTI
 4. Barium meal & enema: for characteristic signs of IBD
 5. Endoscopy: for characteristic lesions of IBD

■ Management

1. Treat the cause if you found it
2. If no specific cause is detected consider the following

• Anti diarrheal:

- R/Loperazine (loperamide)
- Concentration: 1mg/5ml

- Dose: 0.2 mg/kg/day = ... مل /كجم ١ oral in divided doses

- Avoid overdose (danger of paralytic ileus)

- Avoid in acute GE

- R/Digestin syp 1x3

- R/Kapect syp

- أقل من سنة : ربع جيل و نصف ١ ملعقة صغيرة ٣ مرات يوميا
- أكبر من سنة : ملعقة صغيرة ٣ مرات يوميا

3. Iron supplementation

- R/Ferose syp 1x1

4. ± Antibiotics parental (see acute diarrhea)

5. Multivitamins

- R/Multivit syp 1x2

- Or R/Megavit syp 1x1

5. Oral moniliasis (thrush) D47

- Candida infection is common in the newborn
- In older it is uncommon except in debilitated, on antibiotic or immuno-suppressed
- White plaques adhere to all or part of the tongue, lips, gums & buccal mucosa
- On removal of the plaques a brightly inflamed base is seen
- Discomfort may interfere with drinking or eating.

■ Treatment :

1. R/Mycostatin drops

١. مله النظارة (١ مل) بالتقطيع على اللسان مباشرة كل ٦ ساعات بعد الرضاعة لمدة أسبوع

2. Or R/Miconaz or Daktarin oral gel

٢. ملعقة على اللسان كل ٦ ساعات لمدة ٧ أيام

٣. يمكن إعطاء الطفل الملقحة في حالة صعوبة الرضاعة الطبيعية

٤. دهن حبة الأم تجنب تكرار العدوى

5. ± Multivitamins (R/Megavit syp 1x1)

6. Abdominal pain ٤٠

A. Acute abdominal pain

■ Common physical causes

- Gastroenteritis
- UTI
- Viral illness (e.g. tonsillitis associated with mesenteric adhesion)
- Appendicitis
- Hard feces suggest constipation is the cause.
- Think of sickle cell crisis in Mediterranean race
- Abdominal migraine is suggested by periodic abdominal pain with vomiting especially with + ve FH.

■ Investigations

- Urine analysis
- Plain X-ray abdomen
- U/S
- CBC
- Renal imaging

■ Also think of

- Pancreatitis
- DM
- IBD
- Volvulus/intussusception

Appendicitis

- Rare if < 5 years but perforation is higher in this age (90%)

■ Suggest appendicitis if you found

- Increasing pain in the Rt lower quadrant
- No previous episodes
- Anorexia
- Slight vomiting
- Absence of cough
- Examination
- Fever
- Pulse : high
- It is unlikely appendicitis if the child is well & can sit forward unsupported.

B. Recurrent abdominal pain

■ History

- Obtain a good description of pain
- Non-organic pain is classically peri-umbilical
- Are there constitutional symptoms such as anorexia, wt loss or fever?

■ Examination

- Wt loss indicates serious pathology
- Look for pallor, clubbing & jaundice (hepatitis??)
- Is there hepatomegaly, splenomegaly, enlarged kidneys or distended bladder?

■ Investigations

- CBC: for anemia, eosinophilia, infection (leucocytosis)
- ESR: for IBS
- Urea & Electrolytes: for RF
- Serum Amylase: for pancreatitis
- Urine analysis: for UTI
- Stool analysis (3 samples): for parasites e.g. giardia
- U/S: for urinary obstruction, organomegaly, pregnancy
- Endoscopy: for oesophagitis & reflux, PU, colitis

■ Some causes of recurrent abdominal pain

1. Idiopathic abdominal pain
2. Hepatitis
3. IBS
4. PU
5. Parasitic infection
6. Constipation
7. Urinary infection
8. Sickle cell disease
9. Psychogenic
10. Renal colic

■ Key points :

A. Non organic pain is:

- Periodic pain with good health
- Often peri-umbilical
- May be related to school hours

B. Organic pain : consider if :

- Pain occurring at night
- Wt loss, decreased appetite, lack of energy, recurrent fever
- Organ specific symptoms e.g change in bowel habits, polyuria, menstrual problems, vomiting, occult or frank bleeding from any orifice
- Ill appearance, growth failure. Swollen joints

■ Treatment

A. Infant :

1. For colic & distention

- R/Gripe water ماء غريب
أقل من ٦ أشهر: ملعقة صغيرة مقسمة على ٤-٣ مرات في اليوم
أكثر من ٦ أشهر: ملعقتان صغيرتان مقسمة على ٤-٣ مرات في اليوم
- Or R/Spasmol drops ٢-١ نقطة بالأم ٣ مرات يوميا
- R/Simethicone drops (for distension) ٢-١ نقطة ٣ مرات/اليوم

2. For constipation

- R/Glycerin inf. supp. ليوسنة ٢-١ مرة عند اللزوم

B. Children 5 years :

- R/Visceralgic syp ٥ مل عند اللزوم
- R/Digestin syp ٣ مل ٣ مرات/اليوم بعد الأكل

References:

1. Pediatrics at a glance : p.26, 27
2. Oxford specialties : p.170, 171

Degrees of Marasmus:

- 1st degree → loss of sc fat from the abdomen.
- 2nd degree → loss of sc fat from the trunk and limbs.
- 3rd degree → loss of sc fat from the face + previous loss.

2. Kwashiorkor

- Due to protein deficiency & insufficient CHO.
- Occurs at weaning time from 1-3 years.
- Clinically the child is:
 - Oedematus
 - Apathic
 - With angular stomatitis
 - Gastroenteritis
 - Severe anorexia.
 - Growth retardation
 - Hepatomegaly
 - Anemia

References: Updated pediatric therapeutics p. 96-101

8. Herpetic stomatitis D&T

- Shallow ulcers covered with yellow-grey membranes that involve the gums, buccal mucosa & tongue.
- Pain.
- High grade fever.
- Severe anorexia & the child refuses to eat.
- Increased salivation (drooling of saliva)
- The acute phase lasts 4-9 days.
- Self limiting disease.

■ Treatment :

1. Oral hygiene

R/Septoral or Oraldene mw 1x3.

2. Analgesic

R/Brufen syrup ٥ مل / ٦ ساعات

R/BBC spray ٥ مل ٣ مرات / اليوم
علاوة لقم قبل الأكل ربع ساعة ٤-٣ مرات / اليوم

7. Malnutrition S&R

- Chronic complex disorder of infant feeding, precipitated by severe poverty & ignorance.
- Chronic loss of protein and/or energy result in clinical syndromes, such as marasmus, kwashiorkor & marasmic kwashiorkor.
- The mother complains that her child is underweight or not feeding well.
- The 2nd cause of malnutrition is chronic diseases such as :
 - Chronic gastroenteritis.
 - Malabsorption syndrome
 - Errors of metabolism.
- Malnutrition leads to poor immunity → infections & gastroenteritis → malnutrition.

Malnutrition $\xleftrightarrow[\text{poor absorption}]{\text{low immunity}}$ gastroenteritis

- Take full hx of feeding history

1. Marasmus

- Marasmus can occur at any age from birth to 3 years.
- The full c/p & senile face occurs when the infant stops growing & begins to utilize his own s.c fat then his ms.
- The wt is less than 60% standard wt in severe cases.
- The infant is:
 - Hungry.
 - Sucks his fingers.
 - Usually alert.
 - Loss of skin turgor (but not dehydrated).
 - Subnormal temperature.
 - Signs of vitamin deficiency

Or R/Oracure gel or Dentocalm gel

ملعقة على اللسان ٣ مرات / اليوم قبل الأكل ١٠ دقائق

3. In severe cases:

- R/Zovirax or acyclovir syrup (200mg/5ml) ٥ مل ٤ مرات لمدة ٥ أيام
- Add Abs if 2ry bacterial infection.
- Severe cases may need hospitalization for i.v fluids.

• عدم إعطاء الطفل مشروبات ساخنة أو حمضيات (برتقال أو ليمون).
• الإكثار من السوائل الباردة والمثلجة.
• استخدام الكوب والمعلقة في الرضاعة.

■ DD: Aphthous ulcers

References:

1. Updated pediatric therapeutics p.76,77
2. Pediatrics Oxford handbook (for developing countries) p.207

9. Teething D&T

■ Presentation

- Swelling of the gums.
- General malaise.
- Irritability, restlessness decreased sleeping.
- May be fever, diarrhea.

■ Treatment

1. Analgesic

R/Cetal syrup 1x4

Or R/Voltarine or Dolphin 12.5 supp.

ليوس كل ١٢ س أو عند اللزوم

2. Local anesthetic:

R/Dentinox teething gel ٣ مرات / اليوم

3. Ca²⁺:ملعقة مرة واحدة يوميا
R/Pedical syp.

10. Vomiting D&T

- It is important to differentiate () possetting & الشفيط vomiting.
- 1. Possetting** = Regurgitation of small amount of milk (normal in babies).
- 2. Vomiting** = More complete emptying of the stomach (more common in childhood & is often d.t GE).

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Causes of vomiting

1. Over feeding: (in infants).

- Feeding > 200 ml/kg/day.

2. Gastroenteritis:

- Usually associated with diarrhea.
- HX of contact with infection.
- Check for dehydration.

3. Pyloric stenosis: (in infants) → life threatening condition ⚠

- Develop in first 4-6 weeks.
- Projectile vomiting after feed.
- Hungry after vomiting.
- Constipated.
- Palpable pyloric mass.

4. Systemic infection (in old children)

- UTI.
- Meningitis (life threatening)

5. Whooping cough (paroxysmal) in infants.

6. Small bowel obstruction (in infants) → life threatening ⚠

- Presented soon after 1st day of life.
- Bile stained vomiting.
- May have abdominal distension.

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7. Gastro-oesophageal reflux (in infants)

- Common in children with CP & Down syndrome.
- Vomiting is worse after feeds & on lying down.
- Most of GOR resolves over time (6-9 months) as the infant is weaned onto a more solid diet.
- Treatment: R/Cevexon syp 1x3 قبل الوجبة

8. Migraine (in older children).

9. Poisoning & Toxicity (in older children)

10. Pregnancy (in old adolescent)

References:

- Pediatrics at a glance: p 52-53
- Oxford handbook of clinical specialties: p170.

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11. Viral hepatitis D&T

Hepatitis A (fecal-oral transmis-)

Symptoms & signs:

- Gastro-intestinal upset: anorexia, vomiting, dyspepsia, and diarrhea.
- Jaundice.
- Liver: tender and enlargement.
- May be asymptomatic

C/P:

A. Prodromal phase (2-3 days)

- Anorexia.
- Nausea.
- Vomiting.
- Headache.
- Fever.
- Abdominal pain.

B. Icteric phase (2 weeks)

- Prodromal symptoms improve & jaundice appears.
- Dark urine (coca cola color).
- Pale stool.
- Yellow sclera.
- Enlarged tender liver.

C. Recovery phase (few months)

- Improved clinically within 1-2 months & biochemically within 6-9 months.

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Investigations:

- Increased ALT, AST.
- Increased total & direct bilirubin.

Treatment:

- No specific tt, tt is supportive.
- R/Cetol or Brufen syp. من عند الوجبة.
- R/Hepaticum syp. ٣ مرات / اليوم.
- Or R/Silymarine sachets. ٣ مرات يوميا.
- Or R/ Legalon tab 1x3
- R/Primperan syp. ٣ مرات يوميا.
- Or R/Motilium supp. 10mg
- Or R/Becovit Syp. ٣ مرات يوميا.
- R/A-Viton cap 1x1
- Disease is self limited.
- Rare cases progress to fulminant hepatitis.

- راحة تامة للمعدة لمدة أسبوعين.
- إقلال من تناول الدهون والزيوت والبروتينات.
- لاكثر من أكل الشبوات (عسل - أرز - مكرونة) والخضروات والفواكه.
- لاكثر من غسل النحل وزيت حبة البركة.

Lifelong immunity to HAV follows infection.

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12. Chesty child

- Children very commonly present with respiratory symptoms which can include coryza, breathlessness, cough, wheeze or noisy breathing
- Symptoms are often associated with URTI or asthma
- Common infectious causes of "chestiness" are pneumonia, bronchiolitis & whooping cough

5

Causes of cough and breathlessness

- | | |
|-------------------------------|---|
| 1. Croup | ◦ Barking cough (كحة معدنية رنانة) |
| 2. Pneumonia | ◦ Stridor
◦ Fever & cough
◦ Respiratory distress
◦ Chest or abdominal pain
◦ Intercostal recession
◦ Crackles & signs of consolidation |
| 3. Bronchiolitis | ◦ Age < 2 years
◦ Coryza (common cold)
◦ Respiratory distress
◦ Difficulty of feeding
◦ Apnea in young infants
◦ Wheezing and crackles |
| 4. Acute asthma | ◦ Known asthmatic
◦ History of atopy
◦ Wheeze
◦ Cough
◦ Paroxysmal cough followed by vomiting, whoop or apnea. |
| 5. Whooping cough (pertussis) | |

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6. Inhaled F.B

- Toddlers
- History of choking
- Unilateral wheeze
- Sudden onset

7. Viral induced wheeze

- Wheeze with URTI.
- Some progress to Asthma.
- May respond to B.D

8. Heart failure

- Left to Rt. shunts e.g. ASD, VSD

9. Tuberculosis

- Contact with T.B
- Not immunized with BCG.

10. Cough without breathlessness

- Gastro-esophageal reflux
- Post-nasal drip.
- Tracheo-esophageal fistula.
- Passive smoking.
- Cystic fibrosis.

What do you need from your evaluation :

History :

- Are there features of infection such as pyrexia or poor appetite?
- Is there a hx of previous episodes i.e. breathlessness suggesting recurrent asthma?
- Is the child atopic? asthma? hay fever, eczema?
- Is there + ve FH? e.g. asthma, cystic fibrosis, T.B?
- Is there an underlying condition such as congenital heart disease or prematurity that ↑ risk of severe bronchiolitis?

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13. Chronic asthma in children up to age 12

D&T

- The diagnosis of asthma in young children relies almost entirely on history.

History: ask about:

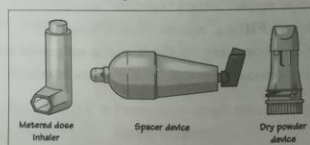
- A persistent nocturnal cough (a very common presentation in young children).
- Recurrent wheezing (most commonly induced by exercise, URTI & allergens)

Investigations:

- Consider a chest x-ray if e.g. the child has recurrent chest infections or there is poor response to treatment.

Management of chronic asthma:

- Avoid precipitating factors** (parents who smoke should be strongly advised against it).
- Consider the best method of drug delivery.**
 - **AGE 0-2 YEARS:** MDI (metered device inhales) + spacer & face mask. Bronchodilators syrups have more SE but are sometimes used in mild cases.
 - **AGE 3-12 YEARS:** MDI + spacer, in older children: dry powder devices can be helpful.



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- Nebulizers are rarely needed.

3. Regularly review treatment.

Drug therapy:

- Start at the appropriate step according to symptoms.

STEP 1: MILD INTERMITTENT ASTHMA

- Give inhaled short acting salbutamol as required.

R/VENTOLIN OR VENTAL (100 µg/DOSE) (أرخص) INHALER 2 PUFFS AS REQUIRED
R/VENTOLIN DISCUS (200 µg/DOSE)

STEP 2: REGULAR PREVENTER THERAPY.

- Inhaled steroid e.g. Beclometasone 100 µg bd

R/MBEFLONIDE CAP IX2 كبسولة شتط (ABOVE 5 YEARS)

- Consider inhaled steroid if:

- Using inhaled β₂ more than 3 times/week
- Symptomatic in the day more than 3 times/week or at night more once/week
- There has been exacerbation of asthma in the last 2 years
- Consider stepping down dose of inhaled steroid by 25-50 % each time at intervals of 3 months or more
- Maintain on the lowest dose of inhaled steroid which control symptoms

STEP 3: ADD-ON THERAPY (REFER TO A CHEST PHYSICIAN)

SEE THE STEPS NEXT PAGE

Age < 5 years

Step 1: Mild intermittent asthma.

- Give short acting β₂ agonist as required.

Step 2: Regular preventer therapy.

- Add inhaled beclometasone 200-400 µg/day.
- Or montelukast if steroids can't be used.

Step 3: Add-on therapy.

- In children < 2 years → go to step 4.
- In children 2-5 years ; add montelukast (if not already added).

Step 4: Persistent poor control.

- Refer to respiratory pediatrician.

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Age 5-12 years :

Step 1: Mild intermittent asthma

- Give inhaled short acting salbutamol as required.

Step 2: Regular preventer therapy.

- Add inhaled beclomethasone 200-400 µg/day
- 200 µg is an appropriate starting dose for many patients.

Step 3: Add-on therapy

- Add inhaled long action β_2 against (LABA) salmeterol.
- Assess control of asthma.
- Good response to LABA → continue LABA.
- Benefit from LABA But control is inadequate → continue LABA + ↑ inhaled steroid to 400 µg/day.
- No response to LABA → stop LABA + ↑ inhaled steroid dose to 800 µg/day.
- If control is still inadequate try other therapies e.g. montelukast or SR theophylline.

Step 4: Persistent poor control.

- ↑ inhaled Becl to 800 µg/day. (or equivalent)

Step 5: Continuous or frequent use of oral steroids.

- Use daily steroid tab in the lowest dose providing adequate control.
- Maintain high dose inhaled steroid at 800 µg/day.
- ▶ Refer to respiratory pediatrician.

Pediatric drugs for asthma

1. SABA

R/VENTOLIN OR VENTAL INHALER (AFTER 2 YEARS)

R/VENTOLIN SYP. (2MG/5ML) 0.1-0.3MG/KG/DAY DIVIDED INTO 3-4 DOSES

2. LABA

R/AIRONYL SYP (AFTER 2 YEARS)

R/BRICANYL SYP. (TERBUTALIN 1.5MG/5ML DOSE = 0.1-0.2MG/KG/DAY DIVIDED INTO 3-4 DOSES - SUITABLE FOR CHILDREN BELOW 8 YEARS.

3. Inhaled steroids

R/PULMICORT INHALER

R/MEFLONIDE CAP (ABOVE 5 YEARS)

4. Leukotriene receptor antagonist e.g. montelukast 4 mg in the evening (8 p.m)

R/WEST AIR 4MG GRANULES IXI (ABOVE 6 MONTHS)

5. SR (sustained release) theophylline

R/MINOPHYLLIN SYP. (100MG/5ML)

R/NEO-MINOPHYLLINE (THEOPHYLLINE 50 MG) SYP. IX2

R/AMINOPHYLLINE SYP (100 MG) IX2

R/MINOPHYLLINE PED. (125 MG) SYP. IX2

6. Systemic steroids

R/XILONE SYP. (5MG/5ML) OR R/XILONE FORTE SYP. (15MG/5ML) IX3X3 THEN IX2X3 THEN IX1X3

< 1 YEAR: 1-2 MG/KG/DAY.

1-5 YEARS: 20MG/DAY.

OLDER: 30-40 MG/DAY.

7. Mucolytics (according to child weight)

R/MUCOSIN DROPS SYP IX3

R/BRONCHOPRO SYP IX3

14. Acute bronchiolitis D&T

- Lower respiratory tract infection
- Mainly caused by syncytial virus
- Age < 2 years, in 6 months risk increase
- The illness lasts 7-10 days

■ Symptoms and signs

- Coryza (common cold) precedes cough, mild fever, tachypnea, wheezes, apnea and intercostal recession ± cyanosis

■ Management

1. O₂ (humidified)
2. Nebulized salbutamol or adrenaline (in severe cases 0.25-0.5ml added to 2-3 ml saline
سم فبروكين (حوال ١٠ قط) + ٢ سم ملح و استنشاق الحار لمدة ١٠ ساعة
3. R/Ambroxol 7.5mg/ml = 0.5mg/drop (mucolytic + bronchodilator)
Dose: 1-2 2mg/kg/day divided into 2-3 doses
4. 15 minutes after nebulizer give Dexamethasone 0.6 mg/kg IM.

▶ Refer if **poor feeding**, **> 50 breaths/min**, the child is **ill or distressed**.

References: Practical pediatric therapy 87, 271

15. Pneumonia S&R**■ Symptoms and signs**

- Fever
- Malaise
- Poor feeding
- Tachypnea
- Cyanosis
- Respiratory distress

■ Examination

- Crepitations
- Bronchial breathing (**easy to miss**)

■ Investigations

- Chest X-ray
 - Consolidations
 - Cavitation suggests T.B or staph.
- Take samples (blood, MSU "mid-stream urine") before starting blind antibiotics.

■ Management

1. High flow O₂ (by venturi mask) may be needed

2. AB:

- R/Azomycin (Azithromycin 200 mg / 5 ml) susp. 10 mg/kg once daily for 3 days
- Or R/Cefotax 500 mg vials

تحق ٢ سم و يعطى ١ سم عقل كل ١٢ ساعة حسب وزن الطفل

3. R/Mucosol syp. ٣ مرات يوميا

4. R/Pyral supp. ٦ ساعات ثم عند النوم

Or R/Cetal syp 1x4

5. You may add bronchodilator as R/Ventolin or Farcolin syp 1x3

٦. يصح للمريض شرب سوائل بكثرة و الأكل يكون سهل الهضم

٧. عدم إعطاء محامض السعال

8. Urgent refer if signs of respiratory distress

16. Acute bronchitis D4T

- Common in children

Symptoms and signs :

- Cough
- May be fever
- Post-tussive vomiting is common
- Chest may be free on examination
- Abs are not needed but advised in patients < 2 years
- Plenty of fluids are important as they act as mucolytics.

Treatment :

1. Mucolytic

R/Mucosol syp 1x3

2. Antipyretic

R/Cetal syp. 1x4 or R/Brufen syp. 1x3

3. For cough: R/Sine up syp. 1x3

4. R/Tussilar tab. Dose: 1-2mg/kg day

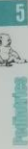
Other names: R/Tussivan - N syp. (7.5 mg / 5ml)

5. AB

R/E-mox 250 mg susp. 1x3

Or R/Curisafe 250 mg susp. 1x2

Or R/Augmentin 312 mg susp. 1x3

**17. Enuresis** (bed wetting & day time wetting) D4T

- Common problem in children
- Most children are dry at night by the age of 3
- 90 % are dry by the age of 5
- > 95 % by the age of 10
- 1 % will have organic problems.

Primary nocturnal enuresis :

Causes

- Delayed maturation
- Emotional stress
- UTI
- Polyuria d.t DM or renal disease

Secondary enuresis (wetting after 6 months of dryness):

Causes

- Emotional upset
- UTI
- DM

Diurnal enuresis:

Causes :

- UTI.
- Neurogenic bladder.
- Congenital abnormality
e.g. ectopic ureter.
- Severe constipation.
- Psychogenic d.t stress.
- Sexual abuse.
- Physiological (urgency).



Diagnosis:

History : ask about:

- Whether the child has ever been dry (a period of dryness suggests that problem is not organic unless the child has UTI).
- Whether the child wets during the day (after the age of 4, this suggests a neuropathic bladder and the child should be referred).
- Family HX: often +ve.
- Any behavioral or emotional problems.
- Heavy sleeping

Investigations:

- Dipstick urine for glucose, nitrates, leucocytosis.
- Send MSU for microscopy, protein and culture & sensitivity.

Tip: specific ttt is unnecessary under the age of 7

Management:

Advice :

- Avoid blame لا تلم الطفل ولا توبخه
- Restrict fluid before bed.
- Lift the child to the toilet where parent goes to bed.
- Reassure the child that he is neither infantile nor dirty.
- A system of rewards for dry nights as documented on star chart above the child's bed.
ورقة يسجل عليها الليالي الجافة على هيئة نجوم للتشجيع
- A child who is < 7 years of age might wear nappies if the above methods are unsuccessful.



- An **Enuresis alarm** can be used if the above methods fail, this is placed in the child's bed & rings when the child wets.
 - Most children become dry within 2-3 months
 - Stop using the alarm after about 28 consecutive dry nights.

Pharmacological therapy

1. First: **Imipramine** (R/Tofranil) 25mg as single dose 1hr before bedtime

- If no satisfactory response 1 to 50mg (may be 75mg in children > 9 years)
- If no response after 1 month discontinue the drug.
- If satisfactory response continue for 2 month then withdraw gradually as the following:
 - 1 tab every other night for 3 weeks.
 - The 1 tab every third night for another 3 weeks.

2. If no response, use **Desmopressin** Nasal spray 20-40 µg at bedtime.

R/Minirin spray 10m/dose (2-4 nasal puffs/ night) 103 L.E
٤-٢ بخات بالأنف قبل النوم

Or R/Minirin 0.2 mg tab if > 5 years.
Review after 2 weeks

3. Plus the previous: use Oxybutynin to help bladder irritability 2.5-5 mg po at night (if > 7 years).

R/Uripap syp 5mg/5 ml ملعقة قبل النوم
R/Uripap tab 5mg at bed قرص قبل النوم

References:

- GP : p. 88,89
- Pediatrics at a glance : p.68
- Practical pediatric therapy 12th ed. 308-310

18. UTI: Usually d.t. E. coli D47

- **Diagnosis:**
 - Older children tend to present like adults & urinary frequency, symptoms dysuria, haematuria & or abdominal pain.
- **Symptoms & Signs:**
 - Consider UTI in any child who is **failing to thrive** or has fever, diarrhea, irritability, enuresis.
 - **In neonates:** UTI can present & prolonged jaundice, septic shock or failure to thrive.
- **Investigations:**
 - Dipstick urine for protein, nitrate & leucocytosis.
 - Send MSU for microscopy, culture & sensitivity before m, Ab.
- **Management:**

1. Abs

Trimethoprim / 250g	R. Septazole stp. (Sulphamethoxazole 200mg + trimethoprim 40mg)
Infants - 3 months - 25mg / 12 hrs	R. Septazole tab (Sulphamethoxazole 400mg + trimethoprim 80mg)
Infants - 3 years - 50mg / 12 hrs	R. Septazole forte tab. (Sulphamethoxazole 800mg + trimethoprim 160mg)
Infants - 3 years - 100mg / 12 hrs	R. Uvamin retard 100mg 1x4
	R. Uvamin sachets 1x4
	R. Macrofuran 50mg 1x3
Nitrofurantoin	R. Nalidixic acid 2x4x7 500mg
Nalidixic acid	R. Augmentin susp. 156,312,457 1x3
Co-amoxiclav	R. Augmentin tab 375,625, 1000
Prophylaxis	Give trimethoprim (1-2 mg/kg at night)
	Or nitrofurantoin (1mg/kg/night)

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2. Give analgesia as paracetamol

R. Cetal syrup 1x4
R. Panadol tab 1x4

3. Fluid intake

4. You may give:

R. Carmurit T tab (Trimethoprim 100mg + Phenazopyridine 25 mg): Ab + analgesic 1x3.
Or R. Urutrim tab 1x3 (phenazopyridine 100mg + trimethoprim 80 mg + sulpha 400mg) Ab + analgesic.

5. All children < 5 years & a first confirmed UTI **should be referred** for further investigations.

6. Arrange a repeat MSU for C&S 1 month after UTI to ensure.

References:

1. Pediatrics at a glance: p. 68
2. G.P. p. 40
3. Oxford handbook of clinical specialties: p. 174,175.

19. Febrile child D47

■ Fever is defined as an axillary temp. above 37.5°

■ Causes of fever:

1. Viral infection e.g.:

- Non specific viral infection.
- URTI.

2. Influenza:

- Fever, cough, headache, anorexia, arthralgia.

3. Otitis media.

4. Dehydration.

5. Tonsillitis.

6. Post immunization.

7. Pneumonia.

8. UTI.

9. Post surgery.

10. Septic arthritis (Joint, pain, swelling, effusion).

11. Serious blood infection e.g.:

- Meningococcal, septicemia.
- Malaria.

12. Kawasaki disease (Rash, conjunctivitis, lymphadenopathy, cracked lips, fever, skin peeling).

13. Factitious.

- Taking temp. after hot drink.
- Excessive crying or exertion.
- Over heating d.t. swaddling.

14. Viral illness with rash e.g.

- Chicken pox.
- Measles.
- Rubella.
- Non specific rash.

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■ What you need from your evaluation:

■ History:

1. Ask about the **duration and pattern** of the fever. Does it occur at particular times of the day?
2. Is there **pain**? earache, difficulty in swallowing, dysuria, or frequency?
3. Associated **malaise, anorexia, vomiting, coryza, cough or rash**?
4. Contact & infected children & **meningitis or chickenpox**?
5. **Vaccination**?
6. Is the child still **drinking adequate amounts of fluid**?
7. What antipyretics & cooling measures have been tried?

■ Examination:

1. Check **temp.**: Oral, axillary or rectal.
2. Does the child **look seriously ill**? Is there a **rash**? **tachypnea**?
3. **Chest**: are there signs of **respiratory infections**?
4. **Throat**: feel for cervical **lymphadenopathy** & look at **tonsils**.
5. **Ear**: Otitis media?
6. **CNS**: Is the child oriented? Is there **floppiness** or signs of **meningism**?

■ Investigations:

1. **CBC**: leucocytosis & neutrophilia suggest bacterial infection.
2. **Blood culture**: if the suggest septicemia.
3. **Lumbar puncture**: to exclude meningitis & encephalitis.
 - Should be performed in any seriously ill child when no focus of infection can be formed, especially in infants < 1 year.
4. **Urine analysis**.
5. **Chest X-ray**.

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■ Management of fever in children:

• Fever is defined as an axillary temp. above 37.5°

- The height of fever **does not necessarily correlate** & the severity.
- The child often appears flushed d.t. skin bl. vs v.d.

• Fever can be treated by:

1. **Undressing** the child & allowing them to lose heat through the skin.
2. **Sponging** skin with **taped water**. (سحق جلد بآب سرد)
3. Using antipyretic such as **paracetamol**.
4. **Aspirin should not be used** in children < 12 years to avoid severe liver failure (**Reye's syndrome**).

• Treat the cause if you found it.

• Fever in newborn infants:

- Fever in an infant < 8 weeks old (2 months) should always be taken seriously because this may represent **late onset congenital infection**. ⚠

Bacteremia

- Age: ↑ if 3-24 m
- Temp.: > 40 °C
- WCC > 15 x 10⁹ / L
- ESR > 30mm / h
- CRP: ↑
- Treat & blind Abs.
 - Cefotaxim: 50 mg/kg/8hrs iv over 20 minutes.
 - Or Ceftriaxone: 20-45 mg/kg once daily IM or IV. Use IV route over 30 min. for top dose (50-80 mg/kg/day) max 4g/d. **Avoid in babies** → it can cause biliary sludging.

References:

1. Pediatrics at a glance: p. 48-49
2. Oxford handbook of clinical specialties: p. 166

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20. Fitting child DGT

Causes of convulsions:

1. Head injury.
2. Febrile convulsions.
3. Hypoglycemia: (DM, in-born error of metabolism)
➤ check blood glucose.
4. Meningitis (Fever, meningism diagnosed by lumbar puncture).
5. Electrolyte Imbalance.
6. Drug ingestion e.g. poisoning.
7. Epilepsy.
8. Asphyxial episode e.g. near-drowning or cardiac arrest.

Generalized convulsion:

- All limbs & face are affected.
- Does not necessarily mean the child will die or go on epilepsy.

Febrile convulsions:

- Usually occur () 5m' & 5ys.
- Triggered by fever, any febrile illness.

Management:

1. Identify & treat the source of fever.
 2. Cool the child by undressing & sponging w/ tepid water.
 3. Give antipyretic as paracetamol, ibuprofen.
 4. If convulsion persist for more than 10 min it should be terminated & rectal diazepam.
- R/Stesolid 5, 10 mg syrup.

Management of fitting child:

1. Support the airway & give O₂ by face mask.
 2. Put the child into **recovery position** "semi prone with the knee flexed under the chest"
 3. Objects should not be put into the mouth (except an artificial airway)
 4. Give rectal diazepam to terminate the seizures
- Or iv R/Neuril 10mg/2ml (dose: 0.5mg/kg over 3 minutes)
5. It is vital to check bl. glucose to detect hypoglycemia

١. أكسجين
٢. حمله على جنبه (recovery position)
٣. شفاطه
٤. منشفه في فم
٥. لوس شرجي
٦. الجلوكوز

6. Once the convulsion is terminated the child may remain drowsy for some time.

7. They should be observed carefully and kept in recovery position until they are able to maintain their own airway.

8. Parents should be taught how to manage further episodes.

9. Give rectal diazepam 5 mg at home

R/Stesolid 5 mg supp.

لوس شرجي كل ٦ ساعات حتى يتوقف ارتفاع درجة الحرارة

10. Antipyretics at home

R/Aspegic iv (dose: 10-15mg/kg)

R/Cetal syp. ٦ ساعات ٥ مل كل

R/Dolphin 12.5 mg supp. ١٢ ساعة لوس شرجي كل

Status epilepticus

- Means continuous seizures for more than 30 min. or serious of seizures without full recovery in between.

Treatment:

1. R/Neuril 10mg/2ml (dose: 0.5mg/kg over 3 minutes)
 2. If convulsions stop over within 10 minutes stop the drug and do not complete the remaining of the dose.
 3. If convulsions do not stop give iv phenytoin
 - o Initial dose: 15-20mg/kg over 5 minutes
 - o Maintenance dose 2-3mg/kg iv every 8-12 hrs
- R/Epanutin amp. (250 mg/6 ml)

If the above failed call anaesthetist and rapid induction of anaesthesia with thiopental should be performed.

References:

1. Updated pediatric therapeutics: p. 164, 165, 166.
2. Pediatrics at a glance: p. 46, 47
3. Practical pediatric therapy 228-229

21. Immunizations

Schedule

During 1 st month	BCG Oral Polio vaccine
2 months	DPT vaccine Hepatitis B vaccine
4 months	Hepatitis B vaccine Oral Polio vaccine DPT vaccine
6 months	Hepatitis B vaccine Oral Polio vaccine DPT vaccine
9 months	Measles v.
18 months (1.5 ys)	Polio v. MMR
6 years	DT Oral Polio vaccine

- Polio**
- Mild fever may progress to meningitis.
 - AHC damage leads to paralysis, pain & tenderness.
 - May lead to respiratory failure & Bulbar paralysis.
 - Residual paralysis is common in survivors.
 - Live attenuated strains.

- Diphtheria**
- Throat infection & pharyngeal exudate.
 - Membrane formation & upper airway obstruction
 - Exotoxin may cause myocarditis, neuritis & paralysis.
 - Inactivated toxin (Toxoid) IM.

- Measles**
- Maculo-papular rash, fever, coryza, cough & conjunctivitis.
 - Complications: encephalitis & neurological damage & high mortality.
 - Live attenuated virus, IM.
 - C.I in Immune deficient children or those with severe egg allergy.

Mumps

- Fever.
- Enlargement of parotid gland.
- Complications: Aseptic meningitis, sensorineural & orchitis in adults.

Rubella

- Mild illness & rash & fever.
- Effects on fetus: cataracts, deafness, congenital heart dse.

Tetanus

- Enter through open wounds.
- Neurotoxin causes progressive painful Ms spasm.
- Respiratory Ms Involvement causes anaphylaxis & death.
- Inactivated toxin (Toxoid). IM.

Pertussis:

- (whooping cough)
- Prolonged URTI & paroxysms of coughing followed by a whoop & vomiting.
 - Complications: Bronchopneumonia, convulsion, ...
 - Erythromycin shortens illness if given early.

T.B

- TB affects lungs, meninges, bones & joints.
- Active T.B requires ttt over many months.
- Most infected children are identified as contacts of infected adults.
- BCG: live attenuated strain given intradermally.
 - o A papule forms & often ulcerates, healing in 6-8 weeks & a scar.
 - o Given to tuberculin -ve teenagers & at birth to babies from high risk families.

General points

1. Injection of polio vaccine is given at 2,4 m' in addition to oral polio vaccine.
2. Vit A capsule (Aviton cap) is given in a dose of 1000 IU & 9 month vaccine & 2000 IU & 18 months vaccine.
3. Booster dose of oral poliomyelitis every year as national program (for eradication of polio).

4. **Booster** of BCG, meningitis & DT are given at school entry (primary & preparatory).
5. Immunizations shouldn't be given to child who:
 - Is younger than indicated in the schedule.
 - Is actually unwell & fever.
 - Has had a serious reaction to previous dose of the same vaccine.
 - Live attenuated vaccine (e.g. polio, MMR, BCG vaccine).
 - (*Bacille - Calmette - Guérin*) should not be given to children & immune deficiency states (e.g. cytotoxic drugs or high dose steroids).
6. If a child misses an immunization it should be given later. There is no need to restart the course.
7. The main adverse reaction to DPT is local reaction including pain, redness & swelling.
 - Systemic side effects including fever > 39°C, irritability, anaphylactic reaction, persistent crying or seizure may occur. Pertussis vaccine is responsible for these reactions.
8. Paracetamol oral should be given 2 hrs before & every 6 hrs at DPT vaccine.
9. Seven reaction would C.I further vaccination & DPT e.g. encephalopathy, fever > 40.5°C & out obvious cause.
10. Mild reaction indicates a good immune system & valid vaccine.
11. Mild rhinitis or cough are not a C.I for vaccination.
12. DPT is C.I in **uncontrolled or recent epilepsy & encephalopathy**.
13. Combination of multiple vaccines in unvaccinated child is useful e.g. DPT, polio, HB & MMR.
14. HB vaccine & HB Ig should be given immediately after delivery in different sites to newborn of HB sero +ve mother.

15. Conditions that do not C.I immunizations:

- Minor illness & low grade fever (less than 38.5)
- Diarrhea.
- Respiratory infections.
- Hx of non specific allergies.
- Asthma.
- Hay fever, rhinitis.
- Eczema or localized skin infection except anaphylactic reaction to neomycin or streptomycin.
- Ch. Dse. Of kidney, lung or liver.
- CP or Down.
- Children on topical, inhaled, short term (less than 2 weeks) or low dose maintenance steroid therapy for a non-immune suppressive condition can be vaccinated.

Practical points :

A. Intra-muscular injections:

- Infants (< 12 months): inject into mid-antero-lateral aspect of the thigh using 22 to 25 G needle & a minimum length of 25 mm.
- Older children : inject into deltoid (if Ms bulk adequate) or mid-antero-lateral aspect of the thigh using 22 to 25 G needle & a minimum length of 32mm.

B. Subcutaneous injections:

- Give these into the thigh in infants & the deltoid in older children.

C. Intra-dermal vaccines:

- Inject these on the volar aspect of the forearm.

D. Simultaneous administrations:

- Most vaccines can be given simultaneously.
- Exception is (Yellow fever & cholera , give them 3weeks apart)
- Cholera & Typhoid react.

E. Don't mix vaccine in the same syringe.

F. Heat sensitive vaccines are DPV, yellow fever, Measles.

E. Vaccines sensitive to freezing are DPT, HBV, HCB, pneumococcal & influenza.

F. Keep them in a fridge at 2° to 8°C. Don't place vaccines in a refrigerator door or freezer.

References:

1. Oxford handbook of pediatrics (South Africa) p. 442,443.
2. Pediatrics at a glance: p.38
3. Updated pediatric therapeutics: p. 40-42

21. Neonatal Jaundice D4T

- Jaundice in 24 hrs of birth is always pathological.
- Serum bilirubin should be checked in babies & significant jaundice.
- Refer if the level is above the limit for the baby's age (Discuss & the laboratory).
- Physiological jaundice appears after 48hrs & usually disappears by day 7 of life.
- Jaundice persisting or presenting after 10 days of age (14 days in immature babies) is abnormal & the baby should be referred for assessment.
- If the prolonged jaundice is associated & breastfeeding it should fade by 6 weeks of age.

References:

1. GP, P85
2. Oxford handbook of clinical specialties p.115

22. Significant warning symptoms that should be learned to the mother

1. Poor suckling.
2. Yellowish discoloration of the skin or eyes.
3. Umbilical ooze.
4. White tongue.
5. Rapid or difficult respiration.
6. Fever or hypothermia.
7. Repeated severe vomiting.
8. Bulged anterior fontanelle.

23. Symptoms which could be considered as a normal neonatal symptoms

1. Sneezing, snoring & mild degree of nasal obstruction.
2. Straining even during sleep.
3. Variable bowel habits:
The average is 1-2 times in artificially fed newborn & 5-6 times in breast feed newborn.
4. Inverted sleep Rhythm نام چهارا و مستقیماً لیل
5. Once or twice vomiting.
6. Regurgitation, even after each feed القيح
7. Vaginal discharge: red stained mucous secretion d.t hormonal withdrawal.
8. Painful micturitions: common complaint during 1st month d.t painful bladder contractions improves gradually & time.
9. Some skin manifestations:
 - a. **Mongolian spots**: bluish, often large patches; most common on the back, buttocks or thighs it is of clinical significance & disappears spontaneously without any therapy.
 - b. **Erythema toxicum**: popular or vesicular lesion on an Erythematous base.

- c. **Milia**: tiny yellow papules representing blocked sebaceous glands, usually found in the nose & cheeks.

10. Transient tachypnea of the newborn:

Mainly in full term neonates, CS is a predisposing factor
No respiratory distress, just tachypnea
It occurs in 1st 24 hrs & may last for 2 days

References: Updated Pediatric therapeutics: p 104,105

24. Umbilical granuloma D&T

- Rounded Red projection at the base of the umbilicus causing bleeding after the stump fall down.

Treatment

R/Silver nitrate 5% solution مرة واحدة في الساعة ٣ مرات يوميا
الأفضل ربط القاعدة بعزلة جراحية و إزالتها

25. The crying baby

- Wet or dirty nappy
- Too hot or too cold
- Hungry.
- Wind. بردان
- Colic.
- Environmental stress.
- Reflux oesophagitis
- Teething

If sudden or severe crying baby:

- Any acute illness
- Otitis media
- Intussusception
- Strangulated hernia

26. Infant feeding

A. Breast feeding

Advantages:

1. Perfect balance of milk constituents.
2. Little risk of bacterial contamination.
3. Anti-infective properties.

4. Non expensive.
5. Ideal food for brain growth & development.
6. Psychologically satisfying.
7. ↓ Risk of Atopic disorders.

B. Bottle feeding:

1. Bottle fed babies like breast fed babies should be fed on demand not at regular times & allowed to explore the food & find their own pattern.
2. Bottles and teats should be sterilized until the baby is > 6m'.
3. Formula milk should ideally be given until the baby is 1 year old.
4. The baby requires about 150ml/kg BW/day = about 6 feeds/ bottles/day.
5. In the first week or so, the baby takes about 50-70ml (7-8 times/day).

Milk feeds after 6m'

1. Formula milk should be ideally continued for the first year.
2. Cow's milk can be introduced after 6m'.
3. Low-fat milk should not be introduced before the age of 2.

C. Weaning "plan"

1. Solid foods are usually introduced by 6m' but not before 3m'.
2. Food should be offered by spoon in small quantities. If food is rejected, it should be tried again after a while.
3. Early foods should be low in salt & sugar.
4. Plain rice cereals mixed with milk are usually taken first followed by stewed (مسبوكة - محروسة) and pureed (مصفى) fruit or vegetables.
5. As the baby starts to cut down milk consumption, small quantities of protein food can be added as meat or fish.
6. By 9-12 months, infant should be encouraged to have 3 regular meals/day & eating normal chopped family food, they will need about 0.5 liter of milk (breast, formula or cow's) / day as well as additional fluids.

7. Only give drinks after meals to avoid reducing appetite. water should be encouraged & fruit juice should be diluted with water.
8. Avoid excess high fiber intake as they are bulk & of less energy & nutrient content.
9. Supplementary vitamins (A, D, C) 5 drops/day from 6m' to 5 years may be given to children if an inadequate diet.

27. Nappy rashes D&T

- Nappy rash is nearly always either due to contact with ammonia from urine or due to candida (thrush)

Management

1. Change nappies frequently to avoid prolonged contact with urine
2. Encourage periods without a nappy i.e. exposure of buttocks to air
3. Wash the nappy area with water at each change
4. Regular use of bath oils & moisturizing creams prevents skin dryness
5. Apply Barrier cream at each nappy change & castor oil cream
 - R. Zinc oxide cream
 - R. No rash cream
6. Candida dermatitis usually presents as erythematous spots with satellite lesion and often affects the flexures
 - Use Imidazole cream or Nystatin cream + steroid cream
 - R. Kenacomb cream or Quadriiderm cream 1x2

28. Important normal values

1. Weight:	From birth to 12 years	Use the equation
The average full term wt at birth = 3-3.5 kg.	From 0 to 1 year	Use the equation: $wt = (2 \times age) + 8$
	From 1 to 12 years	Use the equation: $wt = (3 \times age) + 7$
2. Height/Length	The baby is delivered	After 2 years, use
	From 0 to 1 year	Age in years $\times 7 + 70 = 140$ cm
	From 1 to 12 years	Age in years $\times 6 + 77 = 150$ cm
3. Pulse	From birth to 12 years	From 0 to 1 year
	Newborn	140 - 160 beats/min
	Infants	120 - 140 beats/min
	2-3 years	110 - 130 beats/min
	Preschool children	100 - 120 beats/min
	School children	90 - 110 beats/min
4. Blood pressure	From birth to 12 years	From 0 to 1 year
	Newborn	90/60 mmHg
	1-5 years	90/60 mmHg
	5-10 years	100/70 mmHg
	10-14 years	110/70 mmHg
	> 14 years (as adult)	120/80 mmHg
5. Respiratory rates	From birth to 12 years	From 0 to 1 year
	Newborn	40-60 cycles/min
	1-5 years	30-40 cycles/min
	5-10 years	25-30 cycles/min
	10-14 years	20-25 cycles/min

29. Growth & development

Gross motor development

1. Prone position

Birth: Generally flexed posture

6 weeks: pelvis flatter

4 months: Lifts head & shoulder
w/ wt on forearms

6 months: Arms extended sup-
porting chest off couch

2. Pull to sit

Birth: Complete head lag



6 weeks: Head control developing

4 months: No head lag

3. Sitting

6 weeks: Curved back, needs sup-
port from adult

6-7 months: Sits with self propping

9 months: Gets into sitting position alone



4. Standing & walking:

a. 6 months: stands w/ support

b. 10 months: pulls to standing &
holding on

c. 12 months: stands & walks w/ one hand held

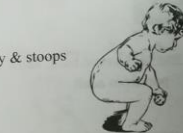
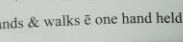
d. 15 months: walks independently & stoops
to pickup objects

Fine Motor Development:

1. Grasping and reaching:

a. 4 months: holds a rattle & shakes pur-
posefully

b. 5 months: reaches for objects



6 months: transfers objects from hand to hand

7 months: finger feeds

2. Building bricks:

12 months: gives bricks to examine

15 months: builds a tower of 2 cubes

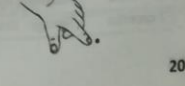
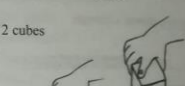
18 months: builds a tower of 3
or 4 cubes

3. Manipulation:

5 months: whole hand grips

9 months: immature pincer grasp

10 months: points to a bead



12 months: mature pincer grasp.

4. Pencil skills:

18 months scribbles with a pencil

3 years draws a circle

4 years draws a cross

5 years draws a triangle

Reference: All of the above figures: Pediatrics at a glance p 27

5. Speech:

3 months	Vocalize: ooh, aah
8 months	Double babble dada baba mama.
12 months	2 or 3 words & meaning e.g. mummy.
18 months	10 words
24 months	Linking 2 words.
3 years	Full sentences, talks incessantly.

6. Social development:

6 weeks	Smiles responsively.
16 weeks	Laughing out loud.
7 months	Stranger anxiety.

9 months	Peek-a-boo, waves bye-bye.
15 months	Drinks from a cup.
18 months	feeding self.
About 2/12 years (very variable)	Toilet trained by day
3 years	dress self (except buttocks)

30. Developmental warning signs: Maternal concern

At any age	Regression in previously acquired skill.
At 10 weeks	No smiling.
At 6 months	Persistent primitive reflex. Persistent squint. Hand performance: Little interest in people, toys, noises.
At 10-12 months	No sitting. No double syllable babble. No pincer grasp.
At 18 months	Not walking independently. Less than 6 words. Persistent mouthing & drooling.
At 2 years	No 2-3 sentences. Unintelligible speech.

31. Miles stones that essential to remember:

4-6 weeks	Smiles responsively
6-7 months	Sits unsupported
9 months	Gets to a sitting point
10 months	Pincer grasp

12 months	Walks unsupported 2 or 3 words
18 months	Tower of 3 or 4 cubes
24 months	2 or 3 sentences

32. Pediatric drugs

Methods of intake of tab or cap drugs that have no syrup formula

1. Chewing the tablet or its fractionation
2. Trial of swallowing with water or juice even the tablet was segmented to small parts
3. Grinding (of the tablet & dissolving it into a small of water
4. Indispensable tab, you can dissolve into certain amount of water & give the child the required dose
5. A practical method (if the child refuses the previous methods) break the tab into small segments and mix with food as some rice or put it inside a piece of bread during feeding the child.
6. Capsules are designed to be dissolved inside the duodenum. Its wall is acid resistant & the usual method of opening then capsule and giving the child its contents is wrong as the active gradient may be affected and becomes less active by the gastric acidity
7. Not all capsules are acid resistant

Syrup forms

- استخدم المعلقة المدرجة أو سرنجة بدلاً من الشى ولأنك استخدام غطاء الهواء ينقل الميكروبات من فم الطفل إلى دواء
- كل أنواع الحقن في هذه المصنوعة تستخدم مباشرة بعد الإزالة ولا تحتفظ بأبقي لعصا الفاعلية

No	Drug	Trade Name	Use and Dosage
1	Paracetamol (Acetaminophen)	Panadol Tylenol Cetal	Analgesic & antipyretic 1. Load 20mg/kg oral then 20mg/kg every 4-6 hours. 2. Load 40mg/kg then 20mg/kg 8hrly Rectal.
2	Albendazole	Albenda Alzental (Anti-helminthic)	> 2yrs: 400mg = 2 tab oral Single dose 200mg chewable.
3	Ventolin (Salbutamol)	Ventolin Vental Butaline	0.15mg/kg/dose - 4doses - oral (syp = 2mg/5ml, tab = 2mg, 4mg) Metered aerosol = 1 puff 2-4 inhalations: - tab sustained action 4mg, 8mg - Met. Astmol = 100 µg/ inhalation - use spacer device Nebulization = 1ml in 1ml saline 3-4 inhalations. Respiratory solution = 5mg/ml
4	Amikacin	Antibiotic	Preterm & Neonates: Loading dose 10mg/kg Then 15mg/kg/day Children: 15-22.5mg/kg/day IV, IM
5	Aminophylline	Aminophylline Minophylline (Theophylline)	Load 6mg/kg IV single dose slowly over 20-30 min suitably diluted.

6	Amoxicillin (Ab)	Amoxyl E-mox	Then 0.5-1 mg/kg/hr IV IV = 25mg/ml (10ml/amp.) Suppositories not recommended Toxic symptoms: vomiting, thirst, agitation, convulsions, shock, death.
7	Ampicillin	Epicoillin	20-40mg/kg/d : oral, IM-8hrly 50-100mg/kg/d: IV-8hrly. Caps 250,500,1gm Vials 250,500 50-100 mg/kg/IV (oral, IM, IV) - 6hrly Syp= 125mg/5ml Caps= 250mg, 500 mg Severe infection: Oral, IM, IV: 200 mg/kg/d Injection = 250, 500, 1mg - 6hrly.
8	Ampicillin + sulbactam	Unasyn Unictam	As ampicillin
9	Ascorbic Acid	Vit.C	Burns: 200-500mg/d oral. Tab = 100mg, 500mg Scurvy: 100mg Urinary acidification = 10-30 mg/kg/dose - oral
10	Acyclovir	Zovirax	1. H. Simplex: IV-5mg/kg/dose (vial= 250mg) Oral - 10mg/kg/dose every 8hrs 2. V. Zoster = 20mg/kg/dose (max: 800mg/day)

11	Atropine sulfate	Atropine	1. Neonates: 0.01-0.02mg/kg/dose (max : 0.4 mg/dose) Can be repeated every 4-6 hrs 2. Children: 0.02 mg/kg/dose 3. in organo-phosphorous poisoning: Antidote = 0.02-0.05 mg/kg every 10-20 min. until atropine effect (tachycardia and mydriasis)
12	Amox-clav	Augmentin	1. 20-40 mg/kg/day - oral - 8 hrly 2. 50-100 mg/kg/day of amoxicillin - iv - 8 hrly 3. Tabs = 250 + 125 (375),... Vial = 0.6 gm (500+100), 1.2 gm (double)
13	Beclometasone	Beclon spray	1. 1-2 puffs by inhalation = 100-200 µg according to age and severity 2. divided doses (max 400 µg) 3. Aerosol 50 µg-100 µg by inhalation given by spacer device 4. For allergic rhinitis: 50 µg by nasal spray - 2 divided doses.
14	Ca gluconate		1 ml/kg/dose (of 10% solution) very very slowly IV with monitoring the heart every 8 hrs with normalization of serum Ca

15	Captopril	Capoten	1. Infants: 0.15-0.3 mg/kg/dose 2. Children: 0.3-0.5 mg/kg/dose (max = 6 mg/kg/dose/24 hrs divided into 2-4 doses) Tab. = 12.5, 25, 50
16	Cefazoline	Cefamezine vials 250,500,1000	1. Neonates: 40-60 mg/kg/24 hrs 2. Children: 50-100 mg/kg/24 hrs (IV, IM every 12 hrs)
17	Cephadroxil	Curisafe Durisafe	15-30 mg/kg/24 hrs divided into 2-3 doses
18	Cefpime	Maxipime	1. 50-100 mg/kg/day IM, IV, 6-12 hourly Vials = 500-1000 2. Severe infection: 200 mg/kg/day
19	Cetirizine	Zyrtec	1. 2-6 ys : 2.5-5 mg - oral - single dose 2. 6-11 ys : 5-10 mg - oral - single dose 3. >12 ys : 10 mg - oral - evening dose 4. Forms: Syp. = 1 mg/ml (100 ml) Tab. = 10 mg Drops = 10 mg/ml 10 mg = 20 drops = 1 ml
20	Cefotaxime	Cefotax Claforan	50-100 mg/kg/day im, iv, 12-6 hourly Vials = 500-1000 Severe infection: 200 mg/kg/day

21	Cephalexin	Ceporex	50-100 mg/kg/24 hrs every 8 hrs
22	Ceftriaxone	Ceftriaxone Cefaxone	1. 20-80 mg/kg/day im or iv single or divided doses 2. 100 mg/kg/day in meningitis 3. For im use ligocaine in older children to pain at injection site
23	Cephadrine	Velosef	50-100 mg/kg/12 hrs, 8-12 hourly - iv, im, oral
24	Chloroquine (anti-malarial, anti-moebic)	Chloroquine Alexoquine Malaroquine	1. Malaria prophylaxis: 2 weeks before travel 5 mg/kg/initial dose (max 300 mg/dose) 2. Malaria treatment: 10 mg/kg/initial dose (max 600 mg) then 5 mg/kg/day orally as a single dose
25	Chloropheneramine maleate	Anallerge Syp. 2mg/5ml	1. Children (2-6 ys): 1 mg/dose repeated every 4-6 hrs 2. Children (6-12 ys): 2 mg/dose repeated every 4-6 hrs مل ١٠ كل ٤-٦ س
26	Clindamycin	Dalacin C	1. Neonates: 10-15 mg/kg/24 hrs iv or im into 2 divided doses 2. Children: 10-40 mg/kg/24 hrs iv or im into 2-3 doses

27	Co-trimoxazole	Septin Septazole	1 Treatment: 4 mg/kg/dose - oral 12 hrly 2.5-5 mg/kg/dose - iv 12 hrly 2 Prophylaxis: 2 mg/kg/dose - oral single daily dose Susp: trimethoprim + sulphamethoxazole 200/5 ml Tab pedia: tri 20 + sulpha 100 Infusion: each ampoule = tri 80 + sulpha 400
28	Tresorix	Appetizer	1 Children 2-6 yrs: 2 mg/dose every 8-12 hrs 2 Children > 6 yrs: 4 mg/dose every 8-12 hrs
29	Dexamethasone	Dexa	1 Airway oedema: 0.5 mg/kg/24 hrs divide into 4 doses 2 Anti-inflammatory: 0.08-0.3 mg/kg divided into 2-3 doses 3 Nasal spray: 1-2 sprays in each nostril x 2
30	Diazepam	Neuril Valium	1 0.2-0.3 mg/kg/dose iv over 2-3 min. and could be repeated after 30 min. 2 0.5 mg/kg/dose rectally
31	Diclofenac Na ⁺	Voltarin Olfen Rofenac	0.5-1.5 mg/kg oral or rectal 8-12 hrly
32	Adrenaline	Adrenaline	0.01 mg/kg of 1/1000 solution s.c or iv and could be repeated 2-3 times with 20 min. interval

33	Erythromycin	Erythromycin	1 Neonates: 20-30 mg/kg/24 hrs divided into 2-3 doses orally 2 Children: 30-50 mg/kg/24 hrs divided into 2-4 doses - oral
34	Fluconazole	Flucoral Diflucan	1 Neonates: Thrush: 6 mg/kg iv or oral once in the first day then 3 mg/kg/24 hr for 14-21 days Systemic infection: 6-12 mg/kg/24 hrs 2 Children: 6-12 mg/kg/24 hrs iv or oral once every day
35	Folic acid		1 < 6 months: 25-36 µg/24 hrs 2 6 months-3 yrs: 50 µg/24 hrs 3 4-6 yrs: 75 µg/24 hrs 4 11-14 yrs: 100 µg/24 hrs
36	Gentamicin	Garamicin	3-7 mg/kg/24 hrs orally divided into 2 doses
37	Griseofulvin	Griseofulvin	10-20 mg/kg/24 hrs orally divided into 2 doses
38	Ibuprofen	Brufen Profinal	For pain: 4-10 mg/kg oral every 6-8 hrs
39	Indomethacin	Indocid	1-2 mg/kg/24 hrs divide into 2-3 doses
40	Iron	Ferose Ferrum (injectable)	1 Prophylaxis: 1-2 mg/kg/24 hrs - oral 2 Therapeutic: 3-6 mg/kg/24 hrs
41	Lactulose	Duphac	1 1 year: 2.5-5 ml/day 2 1-5 yrs: 5-10 ml/day 3 6-14 yrs: 10-15 ml/day Large doses are required in hepatic encephalopathy

42	Lidocaine	Lidocaine	Dose as needed, max 4.5 mg/kg not close than 2 hrs apart
43	Loratadine	Lorano	1 < 30 kg wt: 5 mg/24 hrs 2 > 30 kg wt: 10 mg/24 hrs
44	Mebendazole	Antiver Vermox Vermil	Ant-helminthic 1 100 mg orally repeated after 2 weeks in pin worms 2 100 mg orally 1x2x3 in other parasites
45	Metoclopramide	Primperan Plasil	1-2 mg/kg/dose every 2 hrs orally or iv
46	Metronidazole	Flagyl	Anti-amoebic 1 Neonates: 7.5-30 mg/kg/24 hrs iv or oral 2 Children: 80 mg/kg/24 hrs iv or oral, divided into 3-4 doses
47	Nalidixic acid	Nalidram	50 mg/kg/24 hrs orally divided into 4 doses
48	Neomycin sulphate	Neomycin	1 Infant: 50 mg/kg/24 hrs 2 Children: 50-100 mg/kg/24 hrs Oral & divided into 3-4 doses
49	Niclosamide	Niclosan Yomesan	For tape worms 40 mg/kg oral as single dose
50	Nitrofurantoin	Uvamin Uvamin retard	5-7 mg/kg/24 hrs divided into 4 doses
51	Praziquantel	Distocid	Anti-bilharzial 40 mg/kg/dose orally repeated every 8 hrs for one day

52	Prednisone	Hostacortin	1 Asthma: 0.5 mg/kg/24 orally divided into 2-3 doses 2 Anti-inflammatory: 2 mg/kg/24 hrs 3 Aplastic anemia: 5-10 mg/24 hrs
53	Ranitidine	Zantac	1-5 mg/kg/24 hrs
54	Salmeterol	Metrovent	2 buffo/12 hrs
55	Senna	Sennalax Purgation	10-20 mg/kg/dose oral every 12 hrs or once daily
56	Simethicone	Simethicone	Anti-flatulent 1 < 2 yrs: 20 mg/dose 2 2-12 yrs: 40 mg/dose 3 > 12 yrs: 100 mg/dose Oral - repeated every 6 hrs
57	Tetanus anti toxoid		1 Prophylactic: im or s.c < 30 kg: 1500 units > 30 kg: 3000-5000 units 2 Treatment: 40,000-100,000 units iv & 10,000-40,000 into the wound
58	Thiamine		Anti-Beri Beri 1 10-25 mg/24 hrs im or iv 2 10-50/24 hrs oral
59	Vancomycin	Vancocin vancomycin	1 Neonates: 15-30 mg/kg/24 hrs, 3 doses, iv 2 Children: 40-60 mg/kg/24 hrs oral or iv 2-4 doses 100,000-200,000 IU/24 hrs
60	Vit A		1 Neonates & prematures: 25-50 U/24 hrs
61	Vit E		2 Children: 1 U/kg/24 hrs
62	Zinc supplements	Aqua zinc	0.5-1 mg/kg/24 hrs, 2-3 doses oral

References:

1. Updated pediatric therapeutics p. 1, 2, 3, 194-215
2. Oxford handbook of pediatrics (for developing countries): p. 498-551

33. History taking

1. Pediatrics is a **specialty bound by age not by system**
2. You should make relationship with children and parents
3. **Play with the child and show him toys**
4. Tell the child your name and ask his name
5. Shake hands with children even toddlers
6. Take history from
 - Parents
 - Carers
 - Children : if < 5 years will lack vocabulary but **will be able to point to the parts that hurts**
7. Record the main problem in parent's own words.
8. Ask:
 - When did it start?
 - Was he well before?
 - How did it develop?
 - What aggravates or decrease it?
 - Did the child travel abroad?
9. Past history : Ask about:
 - Details of delivery
 - Birth weight
 - Neonatal period (jaundice?, fever?, bleeding)?
 - Feeding or breathing problems?
10. Ask about **immunizations**
11. Ask about developmental history and growth milestones

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12. Ask about drugs and true allergies

13. Family history:

- DM?
- Rhesus disease?
- Stillbirths?
- Renal disease?
- Other siblings, are they well?

■ While taking history:

- Observe child & parents relationship
- Does the child play & interact normally?
- Is the child distractible or excessively hyperactive?

■ Finally:

- Ask if there anything else that family thinks should be discussed
- At the end list the problems for management plan
- Complete your history by screening other systems.

► **Remember : You can do anything with children if you only played with them**

34. Pediatric examination

1. **Make friends** with the child to gain their cooperation
2. wash and warm your hands
3. **Positioning:**
 - **Babies** may be **examined on the coach** with the parents nearby.
 - **Toddlers** may need to be **examined on parent's lap**
 - Some children may prefer to be examined standing up. only lay the children when you have to, as this can be very threatening

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4. Undressing

- **Let the parents undress the child** & only expose the part of the body you will examine

► While examining:

- Slowly interact with the child by changing toys
- Reassure the child repeatedly and don't be silent
- **Remember: Do not ask permissions from the child as this will often be refused**

■ The examination

5. Allow the child to look at you & let them play at your presence.
6. **BE opportunistic**
 - **If the child is asleep finish listening before they wake up**
 - When look at the hands later
 - Never examine the presenting part only, **train yourself to be generalized**
 - Leave unpleasant procedures such as tonsil examination until last
7. Kneel at the floor to become at the child level
 - Use words familiar to the child **كلمات على أد عقله**
8. Watch the child:
 - Do the look well or ill?
 - Do they look clean, well nourished & well cared for?
9. Is there any evidence of cyanosis or pallor?
10. Does the child look shocked (Mottled skin, cold peripheries)? Or dehydrated (**sunken eyes, dry mouth?**)
11. Jaundice?, Anemia?
12. Assess the child growth, height, weight, & head circumference should be measured in infants

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- Some distracting techniques to help with examination:
- Let toddlers play with your stethoscope
 - give infants something to hold
 - Ask the mother to hold a bright toy in front of them

N.B: A baby should never be picked off their mother's knee if they are beyond 7-8 months of, as this may result in screaming

System Examination

A. Respiratory system

1. Observation:

- **Is there respiratory distress?** ⚠️
 - Nasal flaring
 - Intercostal recession (sucking in of the muscles () the ribs)
 - Subcostal recession (drawing of the abdomen)
 - Use of accessory muscles
 - Grunting
- Is the child running around? Or just sitting on the parent's knee?
- Are they restless or drowsy?
- **Count the respiratory rate**
- Is there **cyanosis or pallor?**
- **Finger clubbing?** (Bronchiectasis?, cystic fibrosis?)
- **Look at the face:**
 - Check conjunctiva for anemia
 - Look for central cyanosis in the tongue
 - Look for petechiae (non blanching spots from small burst blood vessels) around the eyes from prolonged
- **Look at the chest:**
 - Symmetrical movement?

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- o **Failing to move one side?** (Pneumonia??)

o **Shape:**

- **Harrison sulcus:** permanent groove in the chest wall at the insertion on the diaphragm (long standing asthma)
- **Barrel chest:** Asthma
- **Pigeon chest:** long standing asthma

2. Auscultation:

- Before using a stethoscope on the child, **auscultate another part of the child's body** (e.g. leg) to assure him
- Absent breath sounds in an area suggests pleural effusion, pneumothorax or dense consolidation
- In young children upper airway breath sounds are often transmitted over the whole chest So, Ask the child to cough to clean them
- Don't forget to listen under the axilla

► See Chest chapter for more details

References:

1. Pediatrics at a glance: P 12
2. Oxford-examination: P 525-529
3. Oxford-Specialties P 102.

B. Cardiovascular system

1. Inspection

- Is there **central cyanosis**?
- Peripheral cyanosis can be normal in young babies
- Is the child is breathless, pale, or sweating: may be HF
- **Finger clubbing?**: may be cyanotic Ht dses.
- Failure to thrive?: suggest HF

HF: pallor or cyanosis, sweating, respiratory distress & tachypnea.

2. Palpation

- Feel apex beat
 - o Usually in the **4th intercostal space** in the mid-clavicular line in infants & toddlers
 - o In the **4th or 5th intercostal space** in older children
 - o Diffuse, forceful & displaced apex beat: suggests LV hypertrophy
 - o If apex is impalpable consider dextrocardia or diffuse pericardial effusion
- Feel for thrills (palpable murmurs)
- Feel the Rt ventricle heave over the L1 sternal border
- Hepatomegaly? suggest HF

3. Auscultation

- Diastolic murmurs are always pathological

• **Heart sounds:**

- o Are they normal?
- o Loud? : (pulmonary HTN?)
- o Fixed & split (ASD)
- o 3 murmurs:
 1. Cyanosis + murmur → usually **tetralogy of Fallot (TOF)**
 2. Pink + loud systolic murmur → may be VSD
 3. Pink + murmur + impalpable femorals → **coarctation of aorta**



Auscultation positions. Movement of border of auscultation: 1, apex; 2, left lower sternal edge; 3, left upper axilla; 4, left lower axilla; 5, right upper axilla; 6, right lower axilla; 7, right parasternal; 8, left parasternal; 9, right side of neck; 10, left side of neck; 11, posteriorly.

Reference: of this figure: Medscape clinical examination 12th ed. p409

4. Continuous low pitched murmur → may be PDA

4. Pulse

- Pulse rate will increase by 10 beats/min. every temp. increase of 1 C°

< 1 year	120-160
1-3 years	90-140
3-5 years	75-110
5-12 years	75-100
12-16 years	60-90

References:

1. Oxford-examination: P 532-535
2. Pediatrics at a glance: P 13

C. ENT Examination

- ENT examination should be the last examination as it is unpleasant

■ Key points from the history:

1. Does the child pull at his ear? (Suggest infection) هل يشد أذنه
2. Does the child complain of earache or sore throat?
3. Does the child have fever?
4. Are there coryza (runny nose)?
5. Does the infant drool than normal? (Suggest sore throat)

■ Examination:

A. EARS:

1. Sit the child on the parents lap facing to the side
ضع الطفل على ركة الأم (مجراها) و خليه يمسح الجنب

2. Ask the parents to hold the child's against their chest with one hand & firmly hold the child's arms and upper body with their hand

اطلب من الأم أن تمسك رأس الطفل وتثبتته إلى صدرها
جيدا و باليد الأخرى تمسك بذويه وبأقي جسمه العلوي

3. In infant the **pinna should be pulled forwards (not backwards)** to straighten the auditory canal

4. Use the otoscopy as in ENT chapter

5. Some common findings when examining Ear drums:

- **Translucent, grey and shiny:** Normal
- **Red & bulging:** Acute otitis media
- **Dull & retracted:** chronic secretory otitis media (Glue ear)

B. NOSE:

1. Examine the nose externally for discharge
2. Polyps are common in Asthma & Cystic fibrosis
3. Pale, boggy nasal mucosa suggests **allergic rhinitis**

C. THROAT:

1. Sit the child upright on the parents lap facing towards you
ظهر الطفل على صدر الأم



Reference: of this figure: Medscape clinical examination 12th ed. p413

2. Ask the parents to hold the child's forehead with one hand with the back of the child's head against their chest
اطلب من الأم أن تمسك جبهة الطفل بيد وتمسك يده الأخرى
3. The parents should firmly hold the child's arms with their hand

NOW, we are facing a problem HOW to encourage the child to open his mouth?

- Ask the child to open his mouth **AS A LION** اصح بفك رى الأسد
- Tempt an infant to open their mouth with a dummy
خلى الطفل يفتح فمه باستخدام لعبة

D. TONSILS:

- **Normal:** pink and small
- **Acutely inflamed:** Red, enlarged, sometimes with pus spots.
- **Chronic hypertrophied:** enlarged, pitted but not inflamed.
- ▶ Always feel for cervical & supra-clavicular lymphadenopathy.

References:

1. Oxford-Examination: P.530-531
2. Pediatrics at a glance: P.12

D. GIT examination

■ Key points from history:

- When taking a history **start at the head and work down to avoid missing things**

1. Does the child have good appetite?
2. Does the child vomit?
How much?
Are they hungry afterwards?
Is it related to feeds?
What does it contain?

Bile stained vomiting in infants always indicate **obstruction** & must considered as pathological

3. Does the child suffer from abdominal pain? site? nature?
4. Does the child ever have a bloated abdomen?
5. Are there any **urinary symptoms**? frequency, dysuria, or enuresis?
6. Is the child **constipated**?
7. Have there any frequent or **loose stool**? Are the stool particularly offensive (suggest **malabsorption**)
8. Family hx? (e.g. celiac disease or IBD)
9. Ask about details of the child eats
Is the quantity of calories sufficient for the child age?
Ask about height and weight gain

■ Examination :

A. Observation

1. **Make** sure the child is relaxed - small children can be examined on a parents' lap - older children should lie on a couch

2. **jaundice** : look at the sclera & observe the urine & stool color (**Dark urine & pale stool suggests obstructive jaundice**)
3. check conjunctiva for anemia
4. **Oedema**: check over tibia & sacrum, peritibial Oedema may be the first thing noticed by parents
5. **Skin**: look for **spider naevi** - suggest liver disease
6. **Wasted buttocks** : suggest wt loss & is characteristic for coeliac disease
7. Measure the mid-upper arm circumference

Causes of abdominal distension?

- Fat
- Fluids
- Flatus
- Faeces
- Organomegaly
- Muscle hypotonia
- Exaggerated lordosis (normal in young children)

B. Palpation

1. The aim of palpation is:
 - Detection of presence of normal organs
 - Detect enlargement of organs
 - Detect presence of abnormal masses or fluids
2. Use warm hands
3. First ask is there abdominal tenderness
4. Children may resist examination so, use distraction

techniques, if failed use the child's hands to guide yours around the abdomen.

5. Palpate the spleen

- Normally felt **1-2 cm below the costal margin in infancy**
- It is soft and can be tipped on inspiration
- Begin palpation in the Rt. iliac fossa & moves towards the Lt. upper quadrant to avoid missing a very large spleen.
- Bimanual examination may help.

6. Palpate the liver

- Start in the Rt iliac fossa & move upwards in the time with the child's respiratory movements until the liver edge meets your fingers
- Liver edge **1-2 cm below the costal margin is normal up to the age of 2-3 years.**
- Is the liver smooth and soft or hard and craggy?

7. **Palpate** for other masses & check for constipation (usually felt as hard, indentable, non tender mass in the iliac fossa).

C. Percussion

1. Percuss for ascites (shifting dullness)
2. Check for gaseous distension

D. Genitalia

1. **Male** : check for undescended testes, hydrocele, hernias, **Hypospadias** (ventral opening), **Epispadias**

(dorsal opening)

- Retractable testes are normal
- 2. **Female:** inspect external genitalia if there are urinary symptoms.

E. Neurological examination

■ Key points from history

1. Detailed birth and perinatal hx including maternal drugs and illness
2. Careful history of developmental milestones
3. Any change of school performance, personality or behavior
4. Ask about symptoms of increased ICT (e.g. headache, aggression, vomiting)?
5. Any change of the gait, frank ataxia?
6. Does the child have limited function?
7. **FHx:** Blindness, deafness, learning difficulties

■ Examination:

- Young children can not cooperate so, observation become more important, watch what the child is doing while you play with them.

A. Young children:

- Palpate the anterior fontanelle
 - Bulging & fullness (increased ICT)
 - Sunken (dehydrated)
- Measure the maximum occipito-frontal head circumference & plot this on a centile chart

B. Cranial nerves:

- Systemic examination is not possible

■ Use rough method:

- I (olfactory): very difficult
- II (optic): ask can the child see?
- III, IV, VI: (eye movements): gain the infant visual attention with an object & move it back and forward, watch for the range of ocular movements as the child tracks the object
 - Pendular nystagmus may indicate a visual defect
- V (trigeminal) rooting reflex
- VII (facial): facial palsy will become apparent when the child cries
 - Does the child close both eyes?
- IX, X: swallowing
- XI (accessory): neck and shoulder movements
- XII (hypoglossal): tongue movements
- Pupils: check for size, shape & reaction to light

C. TONE:

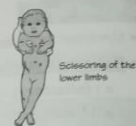
- **Hypotonia:** suggest LMNL
- Hypotonic infant slips through in ventral suspension (holding them up with a hand in each axilla)
- **Severely hypotonic baby** adopts "frog's position"
- **Hypertonia:** suggest UMNL, CP especially in the thigh abductors & calf muscles & may cause toe walking
- **Hypertonic infant:** scissoring of lower limbs when the baby is picked up



- **Resistance to movement:** baby seems to move in one piece

D. POWER:

- Describe upper and lower limbs against resistance.
- Observe spontaneous movements (decreased movements suggest muscle weakness).



E. REFLEXES:

■ Tendon reflex

- Tap the tendon with a finger in babies & with a hammer in children
- Planter reflex is upwards until the age of 8 months then downwards
- Persistence is indicative of UMNL (e.g. CP)

■ Primitive reflexes

1. Moro reflex

- Symmetrical abduction & then adduction of arms when the baby's head is dropped back quickly into your hand.

- Disappears by 4 month

2. Palmar grasp

- Touching the palm causes the baby to grip an object
- Disappears by 2 month

3. Asymmetric tonic neck reflex

- The arm is extended on the side the baby is facing
- While opposite arm is flexed



Reference of this figure: Macleod's clinical examination 12th, p410

- Disappears by 6 months
- Persistence of primitive reflexes beyond the normal period suggests UMNL



Reference of this figure: Macleod's clinical examination 12th, p410

F. Co-ordination (assess in older children)

1. Stand on one leg
2. Walk on tip toes
3. Walk on heels : a good test for overall neurological integrity
4. Finger-nose test / heel-shin test

G. Gait

1. **Stiffness** (toes catch the ground first) : suggest UMNL
2. **Broad based** : ataxia (unsteady with frequent falls)
3. **Waddling gait** : lower limb weakness (proximal) e.g. muscular dystrophy
4. **Limp** : عرج has several causes but consider dislocation of the hip.

F. Neonatal examination

■ Before examination: find out

- Was Birth wt normal?
- Was pregnancy and labor normal?
- Is mother rhesus -ve?

■ Examination

A. The head

- Circumference** (50th centile = 35 cm)
- Shape**: odd shape from difficult : resolves
- Fontanelles**:
Tense: if crying or increased ICT
Sunken: If dehydrated
- Eye**:
Cataracts?
Glaucoma? = Emergency



- Ears**:
Shape? Position: low sit (below the eyes)?
- Nose**: breathing out of the nose (shut the mouth) = **test for choanal atresia**.
- The complexion**
 - Cyanosed, pale, jaundiced, or ruddy (polycythemia)?
 - Mouth: look inside, insert a finger: is the palate intact (cleft palate?) is suckling good?

C. Arms & Hands

- Single palmar crease (normal or Down)
- Waiter's sign = Erb's palsy**

D. Thorax

- Watch respiration: respiratory distress?
- Palpate the pericardium & Apex beat
- Listen to the heart & the lungs
- Inspect the vertebral column for neural tube defects

E. Abdomen

- Organomegaly?
- Is umbilicus healthy? surrounding flare suggests sepsis
- Assess skin turgor
- Inspect genitalia & Anus: are the orifices patent (search for **imperforate anus**)
Ensure the 1st 24 hrs the baby passes urine and stool.
- Place of urinary meatus (**hypospadias**)?
- Are both testes descended?
- Bleeding PV** may be a normal variant following maternal estrogen withdrawal.

F. Hip

- Exclude **congenital dislocation**
- Avoid repeated tests as it hurts & may induce **dislocation**

G. Groin

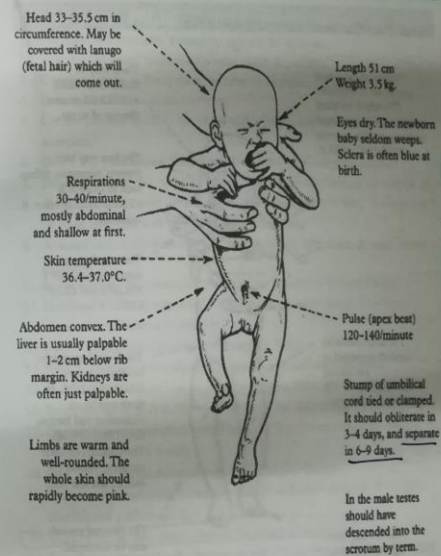
- Check femoral which may be absent in **Aortic coarctation**
- Look for Hernias

H. Routine medication for every newborn

- R/Haemakion or Amri-K (vit K) amp قطرة ٣ مرات يوميا لمدة ٤ أيام
- R/Neopol ٤ مرات يوميا لمدة ٤ أيام قطرة
- R/Alcohol + gentian violet stain ممس للسررة ٣ مرات يوميا بكحول أبيض مع إضافة ممس أزرق بعد الكحول
- R/Zinc olive or calm skin oint. دهان موضعي ٣ مرات يوميا بعد التشطيف للوقاية من التسلخات
- + R/No rash cream

References:

1. Oxford specialties: p.114
2. GP: p.84



The baby is covered in utero with a sebaceous secretion called 'vernix caseosa' (L., a cheese-like coating). This protects the skin against maceration while in the liquor amnii and has antibacterial properties.

The normal newborn baby
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Certain of the commoner defects should be noted at birth.

Defects of the neural system are commonest. The whole vertebral column must be examined and palpated for evidence of MENINGOCELE.

There may be SUPERNUMERY AURICLES or even absence of an ear.

The face may have features suggesting defects such as DOWN'S SYNDROME or other trisomies.

The mouth must be inspected for CLEFT PALATE and CLEFT LIP.

The anus should be carefully inspected to exclude an IMPERFORATE OR ECTOPIC OPENING.

The Umbilicus may be herniated causing EXOMPHALOS, or there may be an abdominal wall hernia, GASTROSCHISIS. There should be three umbilical vessels, two arteries and one vein.

The feet may show signs of TALIPES. Both hands and feet may have interdigital webbing or supernumary digits.

The external genitals may be abnormal, making it difficult to sex the infant—INTERSEX. In the male there may be a degree of HYPOSPADIAS.

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Put in your Mind

1. Pediatric is a specialty bound by age not by system.
2. You should make relationship with child & parents.
3. Use distraction techniques to be able to examine 1 child.
4. Examine toddlers on mother's lap
5. Let the parents undress the child and expose only the part you want to examine.
6. Don't ask permission from the child as this will often be refused
7. Be optimistic if the child is asleep - finish listening before he wakes up.
8. A baby should never be picked off his mother care if they are beyond 7-8 m of age, this will often result in screaming.
9. Always search for pallor, cyanosis, jaundice, dehydrate & respiratory distress.
10. Never examine the presenting part only, try yourself to be generalized.
11. Harrison's sulcus, pigeon chest, and barrel chest: think of asthma.
12. Cyanosis + Murmur = usually TOF.
13. Pink + Loud systolic murmur = may be VSD.
14. Pink + Murmur + Impalpable femorals = coarctation of aorta.
15. Continuous low pitched murmur = may be PDA.
16. Does the child pull at their ear (suggest ear infection).
17. During Ear examination in infancy, the Ear Pinna should be pulled forwards not backwards.
18. Pale, boggy nasal mucosa suggest: allergic rhinitis.
19. Bile stained vomiting in infants always indicate obstructs & must be considered pathological.
20. Dark urine & pale stool suggest obstructive jaundice.
21. In infancy, normally the Spleen is felt 1-2cm. below the costal margin.
22. Liver edge 1-2cm. below the costal margin is normal up to age of 2-3 years.
23. During palpation constipation is usually felt as hard, indentable not tender Mass in the left iliac fossa.

24. ICT = headache, vomiting, bulging & fontanelles.
25. Facial palsy becomes apparent when the child cries.
26. Hypotonic infant slips through in ventral suspension.
27. Severely hypotonic baby adopts frog's leg position.
28. Hypertonia may cause toe walking.
29. In hypertonic baby scissoring of the legs when the baby is picked up.
30. Planter reflex is upwards until 18 months of age then downwards.
31. Moro reflex disappears by 4 months.
32. Palmar grasp disappears by 2 months.
33. Asymmetric tonic neck reflex disappears by 6 months.
34. Persistence of primitive reflexes beyond the normal period suggests UMN.
35. Acute diarrhea is usually d.t GE.
36. Stool: blood + mucous = dysentery
37. Bacillary dysentery = fever + high frequency of stool & less tenderness. + abd. distension.
38. Amoebic dysentery = low frequency + severe tenesmus & no fever & no abd. pain.
39. Acute abrupt onset of diarrhea & high fever & vomiting is characteristic of shigella infection.
40. Babies Colic tends to start after 2 weeks & usually by 4 months.
41. Most children are clean by 2.5 years & soiling is abnormal after 4 yrs of age.
42. Diarrhea for > 4 weeks is considered chronic.
43. Oral thrush is white plaques adhere to all or part of the tongue, lips, gums & buccal mucosa & on removal of the plaque a brightly inflamed base is seen.
44. The common cause of abd. pain is GE & viral infection.
45. Appendicitis is rare if < 5y but perforates is high in this age (90%).
46. Suggest appendicitis if you found ↑ pain in the Rt. lower quadrant, no previous episodes, anorexia, slight vomiting, absence of cough & polyuria.

47. It is unlikely appendicitis if the child is well & can sit forward unsupported.
48. Non-organic abd. pain is classically peri-umbilical.
49. Organic abd. pain is (pain occurring at night, wt. loss, ↓ appetite, lack of energy, recurrent fever)
50. Poor appetite is a common problem in children < 2 years.
51. Herpetic stomatitis = swallow ulcers covered with a yellow membrane that involves gum, buccal mucosa & tongue.
52. Possetting = regurgitation of small amount of milk (normal in babies).
53. Vomiting = more complete emptying of the stomach (most common in children & is often d.t GE).
54. Projectile vomiting (suggest pyloric obstruction).
55. Most children are dry at night by the age of 3.
56. If there is a period of dryness = suggest the problem is not organic.
57. Specific ttt for enuresis is unnecessary under the age of 7 years.
58. UTI in old children tends to present like adults with urinary frequency, dysuria, haematuria & or abdominal pain.
59. Consider UTI in any child who is failing to thrive or has fever, diarrhea, irritability & or enuresis.
60. In Neonates UTI can present with prolonged jaundice, septic shock or failure to thrive.
61. Fever may be d.t infections especially viral, post immunization, post surgery.
62. Factitious fever is d.t taking temp after hot drink, excessive crying or exertion, over heating d.t swaddling.
63. Sponging the skin with tepid water (ماء فاتر) & undressing the child to allow losing heat is very important in m of fever.
64. Febrile convulsions usually occurred () 5 months & 5 years & triggered by fever & any febrile illness.
65. If convulsions persist for > 10min, it should be terminated by rectal diazepam.
66. During fitting objects should not be put in 1 mouth (except an artificial airway).
67. In convulsions, it is vital to check bl. glucose to detect hypoglycemia.

68. Status epilepticus means continuous seizures for more than 30 m.
69. Vaccines: polio (live attenuated), diphtheria (inactivated toxin "toxoid" IM), m (live attenuated virus IM), tetanus (inactivated) toxin (toxoid IM), BCG (live attenuated strain given intra-dermally).
70. Live attenuated vaccines (e.g. polio, MMR, BCG should not be given to children with immune deficiency).
71. The Main adverse reacts to DPT is local reaction.
72. Paracetamol should be given 2 hrs. before & every 6 hrs. during DPT v.
73. In Neonates, it is important to search for [congenital glaucoma, cataracts, choanal atresia, cleft palate, palmar creases, ↑ ICT, respiratory distress, neural tube defect, undescended testes, imperforate anus, organomegaly, congenital dislocation of the hip, aortic coarctation & hernias].
74. Physiological jaundice appears after 48 hrs.
75. Jaundice within 24 hrs. of birth is always pathological.
76. Symptoms that considered as normal in neonates (straining even during sleep, sneezing, snoring & mild degree of nasal obstruction, variable bowel habits, inverted sleep rhythm, once or twice vomiting, regurgitation, vaginal discharge, painful micturitions, mongolian spots, erythema toxicum, milia, transient tachypnea).
77. The crying baby may be (wet, hungry, has colic, teething, too hot or too cold).
78. Wt. from 3 m to 12 m use $Wt. = \frac{age \text{ (in m)}}{2} + 9 = Wt. / kg.$
79. Wt. from 1 to 6 years $Wt/kg. age \text{ (in ys)} \times 2 + 9$
80. Wt. from 7 to 12 years $Wt. = \frac{(Age \text{ in years} \times 7) + 5}{2} = Wt. / kg.$
81. Change nappies frequently & wash skin with water each change & encourage periods without a nappy to avoid napkin dermatitis.

Remember: You can do anything with a child if you only play with them.

Test yourself

- Most common cause of acute diarrhea is
- Dysentery =
- In persistent vomiting (especially without diarrhea) you should exclude
- Diarrhea means
- Lactose intolerance usually follows
- Bacillary dysentery is d.t
- Lactose intolerance is ch' by stool PH
- Amoebic dysentery
- Lactose intolerance is ch' by
- Bacillary dysentery =
- Baby with mild dehydration presents by
- Amoebic dysentery =
- Picture of uncompensated shock (d.t dehydration):
- Shigella infection is ch' by
- Severe dehydration means
- Baby with diarrhea (no vomiting, no dehydration)
- The average of bowel habit in breast-fed babies is
- 6 years asthmatic boy with night symptoms the next management is
- Prescribe for a case of herpetic stomatitis lasting
- Colic in babies tends to start after & usually decreases by
- Case: 20 days baby with colic, crying most of night inspite of good suckling: prescribe?
- Def. of chronic diarrhea is diarrhea lasting >
- Possetting =
- Pyloric stenosis develops in first
- Pyloric stenosis is ch' by
- 3 causes of vomiting
- Prescribe for a case of hepatitis A
- A case of respiratory distress, fever & cough, chest pain, crackles, signs of consolidation → the diagnosis is

29. Mention the trade name:
- Metronidazole
 - Salbutamol
 - Metoclopramide
 - Salmeterol
 - ½ DD fluid
 - Tetracycline
30. 90 % of children are dry by the age of
31. Immunizations during first month are
32. Trimethoprim (Septazole) is the drug of choice for tt of
33. Prescribe for nappy rashes?
34. Def. of fever:
35. Growth and development:
- Stands with support
 - Walks with one hand pulled
 - Says: papa, mama
 - Smiles
 - Setting alone
36. Neuril dose =
37. Lines of tt of UTI are
38. 5 lines of management of fitting child
39. Vit. is given with 18 month vaccine
40. Complete the following measurements of the newborn
41. Pulse, BP, RR
42. Urian syp. is used in tt of
43. Infant (<12 m) is injected i.m
44. Warning signs that should be learned to the mother
45. True or false & why?
46. Vaginal discharge is considered abnormal symptom in female babies
47. Treatment of umbilical granuloma is
48. The baby requires of milk
- The average full term weight at birth is about
 - How to measure the wt of the following ages
 - From birth to 12 month
 - From 1 year to 6 y
 - From 7y to 12 y
49. Prescribe antimicrobial therapy for a case of diarrhea

Answers

- GE
- Blood + mucus in stool
- URTI, meningitis, RF
- Passage of frequent stool or watery stool
- GE
- E.coli, shigella
- < 6
- Entameba histolytica, giardia
- Watery diarrhea, abd. distension, pain with flatus
- Fever + high frequency of stool + less tenesmus + abd. distension
- Thirst, dry mn, irritable
- No fever + low frequency + severe tenesmus + no abd. pain
- ↓ conscious level, BP > 60
- Abrupt onset of diarrhea with high fever & no vomiting
- > 10% body wt loss
- R/Rehydran N Rehydran zinc
كيس على ٢٠٠ سم ماء (ملعقة كل ٥-٢ دقائق)
حتى يتحسن الطفل
- If < 2 years → 100ml/ loose stool
If > 2 years → 200ml/ loose stool
- 7-6 times/day
- β₂ spray agonist R/Ventolin spray 2 puffs x 3
- Steroid spray R/Beclon spray 50 2x2
- R/Septoral mw 1x3
- R/Brufen syp 5ml x4
- R/BBC spray 1x4 before food
- R/Zovirax syp. 5ml x4x5
- 20.2 weeks, 4 months
- R/Spasmotal drops x 4
Or R/Gripe water
ماء غريب معلقة صغيرة مرتين يوميا
- R/Simethicone 5 drops x 3
Or R/Dislatyl 10-15 drops x3
- 22.4 weeks
- Regurgitation of small amount of milk (normal in babies)
- 24.4-6 weeks
- Projectile vomiting, hungry after vomiting, constipated, palpated pyloric mass
- GE, over-feeding, pyloric stenosis
R/Hepaticum syp. 1x3
R/Primperan syp. 1x3
R/Cetal syp. عند المروم
R/Beccovit syp. 1x3
- Pneumonia
- Flagyl
Ventolin
Primperan
Metrovent
Pansol
Tetracid
- 29.5 years
- BCG
- Oral polio v.
- UTI
- R/Zinc olive cream at each nappy change
R/Kenacomb cream (for candida)
Axillary temp. above 37 °C
- 4.6 months
- 12 months
- 8 months
- 6 weeks
- 9 months
- وزن الطفل ٦ x = الخرجة بالشرط
- Abs as Septazole
- Analgesia as paracetamole
- ↑ fluid intake
- O₂
- Put in recovery position
Objects should not be put in the mouth (except artificial airway)
- Rectal diazepam
- Cheek glucose
- 39.A
- 40.140 ± 20
~ 80/50
~ 50-60

41. Nocturnal enuresis
42. into mid-antero-lateral aspect of the thigh.
43. Poor suckling
White tongue
Repeated severe vomiting
Bulged ant. Fontanelle
Rapid or difficult respiration
44. False, because of withdrawal of maternal hormones
45. R/Silver nitrate 5% 1x3

- Or suturing and removal
46. 150 ml/kg/day
 47. 3-3.5 kg
 48. $Wt = \frac{[Age (in months) + 9]}{2} = wt/kg$
 $Wt = [Age (in years) \times 2] + 9$
 $Wt = \frac{[Age (in years) \times 7] - 5}{2}$
 49. R/Flagyl susp. Or R/Amrizole
For amoeba: 50ml/kg/day for 10 days
For giardia: 30ml/kg/day for 7 days

5



Pediatrics

تم فصل الأطفال والله تعالى الفضل والمنة